

Peter Pericles Trifonas *Editor*

International Handbook of Semiotics

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Peter Pericles Trifonas
Ontario Institute for Studies in Education
University of Toronto
Toronto, Ontario
Canada

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*To my children Peirce, Anthi, Yanni... never
forget to follow the signs*

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Contributors

Daniella Aguiar Graduate Program on Literary Studies, Federal University of Juiz de Fora (UFJF), Juiz de Fora, Brazil

Jonathan Arendt Crescent School, Toronto, ON, Canada

Jesse Bazzul University of Massachusetts Dartmouth, Dartmouth, MA, USA

J. Lawrence Bencze Ontario Institute for Studies in Education, University of Toronto, Toronto, Canada

James Eric (Jay) Black Center for Collaborative Journalism, Mercer University, Macon, GA, USA

Luis Emilio Bruni Department of Architecture, Design and Media Technology, Aalborg University—Copenhagen, Copenhagen, Denmark

Peter Cariani Hearing Research Center, Boston University, Boston, MA, USA
Newton, MA, USA

Lyn Carter Faculty of Education, Australian Catholic University, Melbourne, Australia

W. John Coletta University of Wisconsin-Stevens Point, Stevens Point, USA

Dario Compagno Université Sorbonne Nouvelle, Paris, France

Marcel Danesi University of Toronto, Toronto, Canada

Amanda De Lisio Faculty of Kinesiology and Physical Education, University of Toronto, Toronto, Canada

John Deely University of St. Thomas, Houston, TX, USA

Indigo Esmonde University of Toronto, Toronto, Canada

Kane X. Faucher Western University, London, Canada

Maria Isabel Aldinhas Ferreira Centre of Philosophy, Faculty of Letters of the University of Lisbon, Lisbon, Portugal

Elliot Gaines Wright State University, Dayton, OH, USA

Thanos Gkaragounis Harokopio University, Kallithea, Athens, Greece

Susan Jagger Monmouth College, Monmouth, USA

David Kergel Institute for Pedagogy (eDidactics and self-determined Learning),
Carl von Ossietzky Universität Oldenburg, Oldenburg, Germany

Vitaly Kiryushchenko National Research University—Higher School of
Economics, St. Petersburg, Russia

Michalis Kokonis Aristotle University, Thessaloniki, Greece

Evangelos Kourdis Aristotle University of Thessaloniki, Thessaloniki, Greece

Kalevi Kull Department of Semiotics, University of Tartu, Tartu, Estonia

Jennifer Langer-Osuna Stanford University, Stanford, USA

Jay Lemke University of California, San Diego, USA

Massimo Leone University of Turin, Turin, Italy

Christina Ljungberg English Department, University of Zurich, Zurich,
Switzerland

Gunta Mackars Stantec Consulting Ltd., Toronto, ON, Canada

Anna Makolkin University of Toronto, Toronto, ON, Canada

Melanie McBride York University, Toronto, ON, Canada

Ryo Morimoto Brandeis University, MA, USA

Lina Navickaitė-Martinelli Lithuanian Academy of Music and Theatre, Vilnius,
Lithuania

Yair Neuman Ben-Gurion University of the Negev, Beer-Sheva, Israel

Jason Nolan Ryerson University, Toronto, ON, Canada

Frank Nuessel University of Louisville, Louisville, USA

Kay L. O'Halloran School of Education, Curtin University, Bentley, Australia

Marc A. Ouellette Reconstruction: Studies in Contemporary Culture, New
Brunswick, Canada

Roger Parent Campus Saint-Jean, University of Alberta, Edmonton, 8406–91
StreetAB, Canada

Charls Pearson American Semiotics Research Institute, Atlanta, GA, USA

Susan Petrilli The University of Bari “Aldo Moro”, Bari, Italy

Rachel J. Pinnow University of Missouri, Columbia, USA

- Nicky Athina Polymeri** University of Southampton, Southampton, UK
- Augusto Ponzio** The University of Bari “Aldo Moro”, Bari, Italy
- João Queiroz** Institute of Arts and Design, Federal University of Juiz de Fora (UFJF), Juiz de Fora, Brazil
- Wolff-Michael Roth** MacLaurin Building, University of Victoria, Victoria, BC, Canada
- Beth Lewis Samuelson** Indiana University Bloomington, Bloomington, IN, USA
- Kathy L. Schuh** The University of Iowa, Iowa, USA
- Franciscu Sedda** Department of History Culture and Society, University of Rome “Tor Vergata”, Roma, Italy
- Inna Semetsky** University of RosNOU, Moscow, Russia
University of Waikato, Hamilton, New Zealand
- Göran Sonesson** Centre for Cognitive Semiotics, Lund University, Lund, Sweden
- Simona Stano** University of Turin, Turin, Italy
University of Lugano, Lugano, Switzerland
- Irini Stathi** Department of Cultural Technology and Communication, University of the Aegean, Mytilene, Greece
- Kumiko Tanaka-Ishii** Kyushu University, Fukuoka, Japan
- Stela Borisova Tasheva** Bulgarian Academy of Science, Sofia, Bulgaria
- Dimitar Trendafilov** New Bulgarian University, Sofia, Bulgaria
- Peter Pericles Trifonas** Ontario Institute for Studies in Education/University of Toronto, M5S Toronto, ON, Canada
- Karen E. Wohlwend** Indiana University Bloomington, Bloomington, IN, USA
- Katina Zammit** School of Education, University of Western Sydney, Penrith, NSW, Australia
- Jordan Zlatev** Department for Cognitive Semiotics, Centre for Languages and Literature, Lund University, Lund, Sweden

Chapter 1

Apologia

Peter Pericles Trifonas

Any attempt to compile a “handbook of semiotics” is a capricious undertaking at best, and perhaps even impulsive, or at worst “whimsical”, in making decisions about what to include and exclude from a tome that claims to engage the breadth of a burgeoning field of inquiry. The chapters of this “international semiotic handbook” span a multiplicity of epistemologies, methods, and areas of inquiry that constitute a sustained global dialogue among scholars of divers disciplines.

In “Semiotics ‘Today’: The 20th Century Founding and 21st Century Prospects”, John Deeley traces how interest in signs as a thematic or distinct subject matter of *general interest* in intellectual culture was a phenomenon first witnessed in the twentieth century, under the title of “semiology” (from Saussure) in Western Europe but “semiotics” in Eastern Europe (from Juri Lotman, who based his theory on Saussure but knew also, unlike Saussure, of John Locke’s earlier suggestion for a name). Thus, the original twentieth-century general interest in signs stemmed, both East and West, from the work of the Swiss linguist Ferdinand de. Independently, and slightly earlier than Saussure, the American philosopher Charles Sanders Peirce (10 September 1839 to 19 April 1914) had also taken up such a study, which he called “semiotic”; and he called the action of signs, from the study of which semiotic knowledge is called, “semiosis”.

As the twenty-first century opened, thus, the twentieth-century development of semiotics had “gone global”, and the central organizing figure in that amazing phenomenon was, from 1963 onward, neither Peirce nor Saussure, but Thomas A. Sebeok. Sebeok was also the first to make the point that semiotics provides the only transdisciplinary or “interdisciplinary” standpoint that is *inherently* so; in other words, semiotics thematizes the study of what every other discipline had (perforce) taken for granted—semiosis. The chapter undertakes to provide an overview of the twentieth-century semiotic development, as well as to attempt a projection of the twenty-first-century trajectory semiotics is bound to follow in the transition (or transformation) from the modern Enlightenment intellectual culture between

P. P. Trifonas (✉)

Ontario Institute for Studies in Education/University of Toronto, Toronto, Canada
e-mail: peter.trifonas@utoronto.ca

Descartes and Peirce to the truly *postmodern* intellectual culture within which the development of semiotics has proven to be the central positive force.

In “The Visual and the Virtual in theory, life and scientific practice: The Case of Peirce’s Quincuncial Map Projection”, Vitaly Kiryushchenko aims at showing some correlations between Charles Peirce’s life, his intellectual habits as a logician and mathematician, his semiotic theory, and his practice as a geodesist. For this purpose, it makes use of Peirce’s ideas about the nature of visual experience, some facts of his intellectual biography, and his definitions of sign and the term “virtual”. It appears that Peirce’s mature pragmatist and semiotic ideas find some support in his early practice as a scientist and a mathematician, thus providing an interesting example of the intersection of scientific practice and philosophical speculation.

In “Semiotics as an Interdisciplinary Science”, Yair Neuman approaches semiotics, as a meta-perspective, that has the promise to nurture the established disciplines by providing them with a way to conceptual processes of meaning making. The power of semiotics as a meta-perspective or interdisciplinary science results from its ability to conceptualize meaning and value. The promise of semiotics as a meta-perspective has not gained similar success and popularity. In this short entry, I would like to present the power of semiotics as a meta-perspective or as an interdisciplinary science by providing concrete and hopefully convincing examples. The chapter introduces this thesis and supports it through three case studies: The way semiotics may explain immune recognition in biological systems, its potential contribution to collective intelligence and sense making in Web 3.0, and its relevance for understanding the psychology of group dynamics.

In “The Semiotic Paradigm View of Theoretical Semiotics”, Charls Pearson discusses theoretical semiotics concerns such as abstraction, abduction, and the development of semiotic explanations for meaning making, i.e. semiotic theories. Peirce used the term “abduction” ambiguously for at least four different. He only became aware of the full significance of this in his later years. One of his later uses of “abduction” was for the invention of abstract theory to explain the generals of nature and life. Peirce called this “reasoning to the best explanation of the phenomena”. It is this meaning of “abduction” that the semiotic paradigm focuses on in the chapter. For Pearson, theory is arrived at by abduction from a set of known laws or other generals to a set of abstract principles that explain troth the known laws, the generals, and many new laws. Abduction carries us from signs with iconic structure to signs with full symbolic structure. This allows for the development of abstract concepts, principles, theories, and their relations. Pearson analyzes and explains how a theory has the status of a tentatively “best working hypothesis” that explains known laws.

In “Visions of the Other and Free Indirect Speech in Artistic Discourse: Bakhtin, Pasolini, Deleuze”, Augusto Ponzio and Susan Petrilli examine the relation between one’s own vision of the world and that of others, which finds expression in the different types of reported speech—direct, indirect, and free indirect. Such interplay between one’s own word and another’s word is strongest in free indirect discourse where internal dialogism of the word is particularly evident. Internal dialogism is the main focus of the Bakhtin circle and is what Bakhtin understands by “dialogue”

which assumes a completely different meaning from what is commonly understood. So that external dialogue among rejoinders is one thing, that is, dialogue as a literary genre, while dialogue in the Bakhtinian sense, that is, dialogue internal to the same utterance, is another. The work of Deleuze, Pasolini, and Bakhtin can be associated on a theoretical level precisely through their reflections on the problem of the free indirect discourse.

Intersemiotic translation was defined by Roman Jakobson as “transmutation of signs”—“an interpretation of verbal signs by means of signs of nonverbal sign systems”. Despite its theoretical relevance, and in spite of the frequency in which it is practiced, the phenomenon remains virtually unexplored in terms of conceptual modelling, especially from a Peircean semiotic perspective. In “C. S. Peirce and Intersemiotic Translation”, João Queiroz and Daniella Aguiar detail an approach based on Charles S. Peirce’s pragmatic model of semiosis to provide a preliminary conceptual framework to the phenomena.

Welby introduced the term “significs” for her special approach to the study of signs and meaning towards the end of the nineteenth century. This term was completely free from technical associations and was suitable to describe her focus on sign and meaning in relation to values and sense. In “Welby’s Significs, its Developments and International Ramifications”, Susan Petrilli argues that significs transcends pure descriptivism and analyzes signifying processes beyond logical-cognitive boundaries to explore the ethical, aesthetic, and pragmatic dimensions of sign activity. Welby exchanged ideas with numerous personalities of the day in some cases influencing the course of their research as in the case of Charles Peirce during the last decade of his life or Charles Ogden in his young student days. Her work inspired the Signific Movement in the Netherlands, which flourished across the first half of the twentieth century through mediation of the Dutch poet and psychiatrist F. van Eeden.

There have been two popular approaches to critical readings of the Umberto Eco’s *The Name of the Rose*: (1) the criticism treating the novel as, more or less, a “clear-cut” representation of the genre of detective fiction and (2) the criticism treating the novel as the actualization of a self-reflective treatise (generated in the current milieu of intricate postmodern–poststructuralist debating of sign theory) intended to construct an exegetic platform whereby the intertextual field functions to serve Eco’s digressions into the polemics of semiotics. “Crafting the Literature of Semiotic Possibility: From the Metaphysical to the Detective Story in *The Name of the Rose*” presents a reading of the novel and to a certain extent *Foucault’s Pendulum*, by Peter Pericles Trifonas, from a semiotico-comparativist viewpoint, in light of how the detective story genre flirts with and the corpus of Eco’s writings, theoretical and otherwise. Specifically, it examines how the aesthetics of textual production as generated through the lexical signs and codes manifesting the discursive text of the novel work to engender what might be called a re-crafting of the detective story from the narrative domain of the metaphysical tale of a mourning for the truth to the “literature of semiotic possibility”.

Science fiction in the 1950s attempted to provide a moral framework for adults, but especially children and teenagers concerning the dual intimidation of communism and nuclear threats. Though no causality is implied, tracing these

moral lessons allows us to find out how a particular subjectivity emerges. “The Emergence of ‘Atomodoxy’ in Cold-War Rhetoric and Science Fiction Narratives: Fear, Threats, and the Duties of Citizenship in an Atomic Age” by James Eric (Jay) Black attempts to identify and illuminate the imagined companion narratives of a world in the nuclear age. These narratives were created out of fear of what could be rather than a fear of what was, a fear of philosophy rather than historical fact, and became the companion to facts that ultimately became conspiratorial truisms. This chapter refers to these instantly recognizable Cold War metaphors, opinions, and narrative constructs as *atomodoxies*. Examples include the consistent use of ticking clocks, mushroom clouds, and desert wasteland inhabitation in both science fiction narratives and political speech.

Music provides an arena for the exploration of semiotics and the meaning that individuals make of sign systems. In “The Semiotics of ‘Monk’ Rehearsals: A Weaving of Two Texts”, Kathy Schuh describes monk rehearsals, an activity that she used during her teaching experience, and provides a semiotic interpretation of the two texts that the rehearsal included—musical gesture and classroom management. In Schuh’s analysis of the gestural signs within my rehearsal she draws on Peirce’s (1893–1910) types of representamina (qualisigns, sinsigns, and legisigns), objects (icons, indexes, and symbols), and interpretants (rhemes, dicisigns, and arguments). The analysis indicates the insistent role of these two texts in a musical rehearsal—how they allow for communication, instruction, and the creation of music.

“Deviant Orthography” refers to several textual phenomena: (1) a written linguistic phenomenon that is used to imitate spoken speech in literature; (2) an orthographic abbreviation process used for text messages because of their limitation in the number of characters permitted (tweets); and (3) sporadic errors that reflect reduced literacy. This study by Frank Nuessel examines all three phenomena within a semiotic context, i.e. the use of conventional orthography in a nontraditional fashion.

Recently, a growing number of researchers study semiotics as a research tool in translation. At the same time, semiotics of translation or translation semiotics has gained its place as a theoretical approach. From the perspective of semiotics, translation is studied by Evangelos Kourdis as a purely semiotic act that involves the transition from one semiotic system (source language) to another (target language). This semiotic act can be interlingual, intralingual, or intersemiotic translation. This chapter examines the interdisciplinarity of translation semiotics and the new perspectives of study not only of intersemiotic translation but also of interlingual translation, which is the main field of translation studies. The translation semiotics approach is interdisciplinary also within the boundaries of semiotic theories since researchers often apply different semiotic theories in their study of translation. “Semiotics of Translation: An Interdisciplinary Approach to Translation” also raises a concern as to the highly theoretical approaches of most studies in the field of translation semiotics. Such a trend runs the risk of narrowing down the field to a purely theoretical sphere that does not conform to translation as a practice.

Irini Stathi examines cinematic adaptations of theatrical plays as results of an intersemiotic translation from a semiotic system to another. Cinematic adaptations have been an important part of the history of cinema from its earliest times.

Significant plays (from Greek tragedy and Opera to Shakespeare and Beckett's plays) have been treated in order to be transformed into films and recently also into interactive audiovisual texts. "Inter-Semiotic Translation and Transfer Theory in Cinematic/audiovisual adaptations of Greek" attempts to approach the subject from the "transfer theory" perspective and it also involves "translation theory". Jakobson's conception of "intersemiotic translation" is the main theory for this approach and combined with Even-Zohar's "transfer theory" gives the possibility to explore how the relationships between theatre and cinema in general, cinematic adaptations of classic Greek tragedy plays by diverse directors such as Cacoyannis, Pasolini, Jancsó, Dassin, or Angelopoulos in particular, offer a framework for dealing with two issues: (a) the way in which cinematic/audiovisual adaptations of plays manoeuvre between the theatre and the moving images, two distinct media which use different semiotic languages and involve different kinds of technologies which help the production of a new meaning after the transfer and (b) how those adaptations manage the distance between the original text and the time and condition of their specific production/adaptation.

Since the early 1990s the enormous power of some brands as Coke, Levi's, and Marlboro, especially on the recently opened markets of Central/Eastern Europe and China, has been attracting the attention of a significant amount of theorists and practitioners outside the companies' boardrooms. Almost suddenly it appeared that everything could be branded with great influence and market value—services, movies, media, even people; brand sold more than functional attributes of the products did; brands were in the centre of different lifestyles and last but not least, some of them united people like a religion. In "Brand as an Economic Value and Sign: Positioning as an Instrument for Creating Market Distinctions", Dimitar Trendafilov analyses how the new millennium, mass (global) media strengthen brands and contribute significantly to their power, increasing their awareness and positive image, and putting them in almost each activity in our everyday life. Moreover, he examines why the presence of brands on the Internet in various formats and their active participation in the social media irretrievably changes the relationship and conversation between companies and consumers. The stress is on its role in market differentiation and, further, in consumer-based brand equity creation via long and consistent communication process. The thesis that brand is not a mere "trademark" but new, higher level of marketing and dealing with the consumers is supported throughout the chapter. Semiotics, in terms of overall communication analysis and in advertising area in particular, is fundamental for the better understanding of the brand issues. The chapter refers to the contribution of socio-semioticians who are focused on the commercial side of communication (J. Baudrillard, M. Evans, R. Abadjimarinoва) where brand is scrutinized as both primary sign and secondary sign system of a product (social myth).

Narcissus did not know he was looking at his own reflection. The spatial distinction between his body and his reflection in a pool of water was not understood because, while he was enamoured by his displaced image, his focus was absorbed by the aesthetic code he was experiencing. Codes are only part of the story; focusing on conventional meanings, interpreters tend to overlook the context of embodied,

personal perspectives coloured by assumptions and preconceptions. An emphasis on Peirce's "secondness", the relationship between a sign and its meaning, helps to explain the inadequacies of code-based social network communication and new media's broader potential for identity and interpretations. In the light of a semiotic perspective, in "Understanding the Codes and Assumptions of New Media", Elliot Gaines explores media as an extension of identity and communication.

In "The Semiotics of Innovation", Massimo Leone argues that creating, enhancing, and monitoring buzz are nowadays marketing and advertisement imperatives. Every commercial producer in the world seeks to surround its products and their potential consumers into a persistent, stupefying, and seductive buzz. New digital technologies of communication, above all social networks, are turning buzz into a sort of religion: you are nobody if you are not preceded by buzz; what you do is nothing if it is not immersed into buzz even before it comes about. But what is the buzz about buzz? How can semiotics observe, describe, and analyze the processes that lead to the creation, multiplication, transformation, and finally disappearing of buzz? Moreover, how can semiotics predict what consequences buzz culture will have on the way we create, share, remember, and forget meaning and its artefacts? Relying on previous theories of cultural contagion (Landowski, Sperber) and viral communication, the chapter seeks to place its understanding of buzz in the frame of a general semiotic theory of novelty and innovation.

"Multimodal Digital Humanities" presents a theoretical and analytical approach to semiotics research involving the use of interactive software applications and visualization techniques for multimodal analysis of text, images, and videos. The software applications are used by Kay O'Halloran for the annotation, analysis, search, and retrieval of semantic patterns based on frameworks for language, images, and audio resources derived from Michael Halliday's social semiotic theory. In the case of video analysis, the software contains facilities to play the video, transcribe the interactions, and systematically record time-stamped annotations for the semiotic selections made by different participants. The various combinations of semiotic choices can be viewed as interactive visualizations, which display the exact location of the semiotic clusters in the video and the relative time spent in each state. The digital tools and techniques for multimodal analysis thus provide insights into the nature of intersemiotic relations and more generally multimodal semiosis. The approach is located within the digital humanities paradigm which promotes the use of computer techniques and technologies for humanities, arts, and social science research.

There are many ways of constructing pictures of the world, and photography is only one of these. Nevertheless, there is no doubt of the type of picture that has been most thoroughly studied in semiotics, as well as the kind which semiotics has contributed in the greatest degree to elucidating. In "Semiotics of Photography: The State of the Art", Göran Sonesson, acquaints us with René Lindékens' and Hartmut Espe's early attempt at creating an experimental semiotics of photography, as well as with numerous studies of particular uses to which photographs may be put, such a news pictures and publicity. He looks at Jean-Marie Floch's masterly analyses of particular photographs, which however do not purport to say anything about the specificity of photography. Following a suggestion by Philippe Dubois,

the chapter takes its point of departure in the idea that the study of photography, both in its pre-semiotic and its semiotic phases, has first treated the photograph as being a kind of icon (a similarity motivated sign), then a conventional sign, more or less comparable to verbal signs, and finally as an index, a sign motivated by the very continuity of the apparatus creating the expression to the corresponding content in the real world. The idea of photographs being icons of course goes back to Roland Barthes, as does so much else in pictorial semiotics, and Umberto Eco, by implication, and René Lindekens explicitly, argued that pictures were conventional. The indexicality thesis was argued in three fundamental books, by Philippe Dubois himself, by Jean-Marie Schaeffer and Henri Vanlier, all published in the early 1980s. Immensely enlightening as these books are, they were shown in the late 1980s, in several publications by Göran Sonesson, argued that iconicity, but not in the simplistic way in which it was imagined by Roland Barthes, must in spite of all be fundamental to photographs, as to all pictures, and that indexicality can only have a secondary importance. He also suggested that what really made the difference between photographs and other pictures were the global, instead of local, mapping rules that they applied to perceptual reality. It is argued that the future of a semiotics of photography, however, is in a return to the experimental approach of Lindekens and Espe.

Marcel Danesi engages how signs and their utilization in textual forms by the mass media shape social processes or perhaps mirror them. This branch has come to be known broadly as *media semiotics*. “The Semiotics of the Mass Media” aims to explore at a deeper level the implicit or unconscious signifying structures and practices present in mass media content. As an analytical and conceptual framework, it has proven itself to be particularly well suited to deciphering media effects on cultural trends and on how meaning systems inherent in human codes are transformed for various purposes by the media. This chapter approaches media semiotics to investigate how cultural meanings encoded by media texts (programmes, spectacles, and so on) are adopted and adapted for specific purposes and then redistributed throughout the culture. Like the other branches of the discipline, media semiotics interweaves insights and findings from cognate fields in order to unravel the modalities implicit in “mediated signification”, as media-based and media-delivered meanings are commonly called.

Architectural graphics is a major communication tool in design. Although drawings are meant to facilitate processes of building an architectural structure, nowadays they are imbued directly or indirectly with a lot of additional data. In “Problems of Contemporary Architectural Graphics”, Stela Borisova Tasheva explores contemporary architectural graphic artefacts and is focused on their public appearance in design, marketing, or even political visual texts and discussions. Graphics are often used in parallel: as an internal professional language and as a special way to promote to the whole society marketing ideas of “new” and “ideal” house, office, city, and life. And although design renderings are not meant to be a true analogue of the existing architecture, still they sometimes act for it and replace its real sense and vision. Thus, the mass substitutions of architectural objects with their jug-handled images in our data streams is a social phenomena, that is changing what is

contemplated as building environment or the architect's role of a creator. Investigation of different communication models, types, and levels is implemented with the use of various castle representations as a case study.

"Part II—Curating documenta: The Spectacle of Modernism" aims at detecting the traces that contradict the master narratives of documenta. Vesna Mazdoski gathers evidence that had managed to escape the control, and to speak about the processes and procedures obscured by the spectacle. The chapter is an examination of a spectacle as a repression mechanism, as an attempt to escape the disturbing narrativization of a traumatic past. We will look for the "hidden" narratives of exclusion in order to acquire a glimpse of alternative histories of documenta. Taking a step further, this makes curators, the main agents of documenta, the ones who function not only as the "masters" of the spectacle but also as the "masters" of the traumatic past.

"Introduction to Biosemiotics" details why the persistent need for semiotics indeed derives from the fact that semiotics is a fundamental science—the foundational science for all those disciplines that are engaged in studying modelling systems. And no living being can do without sign systems. Semiotics, put otherwise, is a qualitative science of complex adaptive systems, which are precisely those systems in which meanings are generated. Semiotics is the study of meaning making. Kalevi Kull analyzes how the discovery that the behaviour of animals is not merely a chain of automatic reactions, predictable by universal laws of nature similar to those governing fire, air, and water, or any chemical reaction whatsoever but is rather coded, based on experience, and presumes recognitions, i.e. it is truly sign-based, meant for treating biology from a new perspective. Physical methods of description are insufficient for describing signness. Surprisingly, contemporary biosemiotic understanding concerning the types and extent of signs almost overlaps with the views of Aristotle on nature and beings. Aristotle, as is well known, divided mind (*anima*) into three basic types: vegetative (*anima vegetativa*), animal (*anima sensitiva*), and propositional (*anima rationale*). Signs are divided likewise, comprising three major levels of sign process, or semiosis: vegetative, animal, and linguistic (cultural) semiosis. For semiotics, this means, however, that the overwhelming majority of semiosis is not conscious. Conscious sign processes are but the tip of the semiotic iceberg.

In "The Sign of Nature", Gunta Mackars believes that in this period of globalization and connectivity, on virtually every level of experience we are at a critical decision-making point about the quality of life, land, and health we are leaving to future generations. We can become wrapped up in any moment in time as being the most critical for a variety of reasons (economics, technology, sustainability, security), but while each moment in time has its significance in an evolving world we are also obliged to consider the world with its growth, complexities, and changes, and the reality we are leaving 100 years from now.

It is tangible, emotional, gratifying, and direct to assess and make decisions based on the now. These decisions support our roles and responsibilities at the moment and can be made in isolation of the long-term ramifications and significations of a time to come in an with nature. The world is undergoing changes based on

decisions being made now that will forever alter the natural landscape and our sense of place within it affecting our homes, our cities, our being, and our psyche. A significant area of impact on our sense of balance is in our relationship with nature that can create a push–pull in our sense of balance. Nature supports us mentally, physically, and emotionally—it is the lifeline to our extended well-being, our health, and our personalities. We are part of sign of nature and it signifies a part of us. This is evident when we are present and attentive on the present signs of nature.

“Waves of Semiosis. Is It about Time? On The Semiotic Anthropology of Change” explores the theoretical gap in semiotic anthropology between the Saussurean rigidity of “change *of* system” and Peircean vicissitudes of “change *in* system”, and the role culture plays in it. Ryo Morimoto argues that a Peircean conceptualization of the index’s “dependence” on both the past (icons) and the future (symbols) informs its peculiar “real-time” signification of becoming *meaning-full through*, and that such processes can be ethnographically observed in contexts of sudden change, especially in the sociocultural processes of memorization in post triple disasters in Japan. Morimoto suggest that a semiotically informed investigation of a struggle of interpretative grounds in the midst of sudden change (where the previous presuppositions become futile) allows social scientists to examine semiosis in its representational and determinative axes as it proliferates, is blocked, and/or is manipulated in becoming meaningful through multiple temporalities condensed in “real time”. Thus, any semiotic anthropological analysis of change has to take into account the past, present, and future in continuum—though not necessarily in a linear order—in understanding a semiosis of, in, and *through* society. The chapter concludes with a methodological suggestion that the ethnographic study of societies undergoing rapid social change and of traumatic rupture of their assumptive worlds offers a vista into a prolegomenon of sociocultural continuity, and how signs in society are rendered meaningful not only through their patterned communications in the representational axis (i.e. commemoration) but also through semiotically condensed patternings of remembering and forgetting along the determinative axis (i.e. historicization).

In “Embodied Signs: Action and Collaboration in Children’s Play and Digital Media Texts”, Beth Lewis Samuelson and Karen Wohlwend surmise that play and digital media production are emerging as key ways to mean and, importantly, that fit semiotic abilities and strengths of young children. This chapter highlights the emerging research on the literate potential of play, collaboration, and action, suggesting that a semiotic perspective is urgently needed to understand how play functions as a key meaning-making practice in the context of powerful digital technologies that amplify and record embodied signs. Children at play engage in production of meanings as they manipulate artefacts to emphasize particular modal meanings through changes in movement and proximity to co-players, postures, facial expression, as well as physical layout of furniture, props, and toys. These modal designs take on additional layers in digital domains as children design by manipulating modes such as virtual proximity among avatars, arrangement of layouts, and movement across screens. In this way, even very young children’s play creates complex embodied signs and action texts, not to compensate for their emergent language but because they intend to convey the richest meanings possible through their play and design.

Humans have been eternally fascinated by their own face and faces of others. It has always captured the imagination artists, philosophers, poets, medical professionals, and ordinary people. It presents a very rich chapter of study in semiotics as a particular semiotic system. In “Face as a Sign and Paolo Mantegazza’s Theory of Metoposcopy”, Anna Makolkin engages the little-known theory of metoposcopy by a once very popular original thinker Dr. Paolo Mantegazza (1831–1910), the “Italian Freud”, who had combined medical, anthropological, cultural, and philosophical knowledge in the construction of his own extremely original theory. He stands in European cultural history as a very exotic persona. The founder of the first chair of anthropology at the University of Florence, Paolo Mantegazza claimed to be also the father of the new science of physiognomy or metoposcopy. The chapter examines the intellectual roots of Mantegazza’s theory which incorporated all the traditional theories of the face-sign from Aristotle to Darwin, and had formulated a new original semiotically based area of science. Inspired by his own numerous world travels and observations of various people and traditions, not only was the theory advanced for his time but it still stands in the history of ideas as an original form of anthropological, cultural and medical knowledge, and ethics. On the other hand, his philosophy of eudemonism is tied to his science of metoposcopy. The chapter examines both aspects of Mantegazza’s legacy. Despite the occasional swaying into pseudoscientific mode, his metoposcopy reaffirms a cultural and intellectual identity of a man of the Enlightenment, leaning towards the power of human reason in the era of cultural crisis and decadence, and standing as an antithesis to the more popular Freud.

Jay Lemke’s chapter presents a semiotic (and more specifically bio-semiotic) analysis of the relations between processes of feeling and meaning making. “Feeling and Meaning: A Unitary Bio-Semiotic Account” argues that feeling and meaning are two aspects of the same system of material processes, that the dynamical system in which these processes occur is always larger than what we think of as an individual human organism, and that meaning and feeling as processes always occur across multiple timescales and levels of organization in complex open dynamical systems and have their evolutionary origins in systems that may be simpler than single cells. Lemke argues that both feeling and meaning as processes are distributed, situated, context dependent, active, and culture specific.

In “Preserving Spaces of Uncertainty: Bioremediation, Urbanism and the Sporting Spectacle”, Amanda De Lisio suggests that if the urban condition, its architecture, landscape, and design can offer a text to examine, the text of cities is in constant flux. The staging of a sport mega-event will exacerbate this state in the construction of new, ultramodern sporting facilities. More often than not, as the literature will attest, event-related construction will demand the removal of infrastructure (whether natural or woman/man-made) from host cities. The site of a new stadium will be forced to become an “ecological tabula rasa”, a return to the backside of heavily designed, controlled, and scripted spaces of everyday life. Even the soil, the mineral foundation of the site, is often in need of careful bioremediation to erase the (so-called) impurities of the past. In their piece entitled “1440: The smooth and the striated”, Deleuze and Guattari describe striated space as that which is typical of

the highly organized urban environment we (in)voluntary navigate daily—consisting of orderly, grid-like patterns of rectilinear, tall and grey buildings, networks of closed-circuit cameras, police patrols, and private security guards. Nevertheless, as Deleuze and Guattari indicate, even the most striated of urban space can create opportunities for smoothness. Graffiti writing, skateboarding, parkour, littering, pollution, and decay: all constitute a rupture, a moment in which we bear witness to the fanatical maintenance of social order and realize our existence as both the steward and cotenant. Mega-event-led urban renewal—and the barren, derelict and un(der)developed space it will (re)territorialize within our cities—can offer us a moment to envision the world outside the homogeneous and prescriptive nature of our urban environment. And within our current political economic state, it is this moment/space that we need.

Etymologically, a garden has been defined by the fencing in or enclosure of an outdoor space for the use of humans—for the cultivation of food; for aesthetic, sensual, and emotional experiences; and for the nurturing of the human spirit. Gardens not only reflect our interactions with the land through our physical work with soil and plants but also act as a mirror of the society that creates it. Through their design and use, gardens act as texts that can be explored to gain insight into historical and current relationships with the land. Symbolically, gardens can also illustrate philosophical predilections and metaphysical relations. “What Does Your Garden Show? Explorations of the Semiotics of the Garden” by Susan Jagger is a historical exploration of the semiotics of the garden that considers the signs and what is signified by the garden text. From the academies of ancient Greece to medieval monastic gardens to villas of the Renaissance to the Baroque state gardens of Versailles, it follows traces of power and privilege of the individual, family, state, and church. The chapter also looks at current shared community and school gardens and looks forward, meditating on who and what is present and absent and how representations of power and privilege are cultivated in the garden.

Anthropologically speaking, food is undoubtedly the primary need. Nevertheless, this need is highly structured, and it involves substances, practices, habits, and techniques of preparation and consumption that are part of a system of differences in signification. Once satisfied, therefore, the first human need becomes a sign as it replaces, sums up, and signalizes other behaviours. In this sense, Simona Stano in “Semiotics of Food” believes we can speak about a semiotics of food: food is not only a substance for survival and nourishment but also part of a sign system as it is strictly involved in processes of signification and interpretation. The same taste experience goes beyond the individual perception, embracing the intersubjective and collective level. If on the one hand the taste dimension depends on biological and physiological—and so individual—components, on the other hand, it seems to be socially and culturally determined, as it is based on intersubjectively defined patterns of valorisation. Even beyond the gustatory experience, cooking is a technical activity ensuring a transition between nature and culture, as Lévi-Strauss points out in his *Mitologiques* (1964–1971), a key reference for the analysis of food symbolism. This leads to the well-known aphorism by Brillat-Savarin “tell me what you eat, and I will tell you what you are” (1825): a formula that, taken adequate distance

from any kind of determinism, is still extremely topical in its references to the issue of the relation between food and identity. Building on these considerations and taking into account the main existing works in food studies, “Semiotics of Food”, aims at thinking over the links existing among signs, texts, discourses, and practices concerning the gastronomic universe, pointing out the importance of a semiotic approach in this field.

In “Semiotics of Culture(s): Basic Questions and Concepts”, Franciscu Sedda introduces some basic questions and concepts related to the semiotic study of culture and of cultures. The first question “Is Semiotics necessary to life?” leads to the analysis of the role of Semiotics and semioticness vis-à-vis human beings. The chapter suggests a double necessity of semiotics, intended both as a quality proper to humankind and as a scientific knowledge necessary to reflect and develop awareness of our unperceived “cultural nature”. The second question is related to a basic and yet forgotten claim of semiotics. This is the idea that regards semiotic analysis not only as a form of intellectual knowledge but also as an action that aims to transform reality. This leads to the definition of the semiotician as a political subject, and to the reflection about the general status of subject and subjectivity from a semiotic point of view. The third question confronts the paradox of a cultural space that is always singular and plural at the same time. The chapter proposes some theoretical and methodological tools—e.g. the circular intellectual movement represented by analysis and catalysis—in order to manage the complex relations between parts and whole, micro and macro, order and chaos, sense and non-sense. The second part of the chapter proposes three key concepts for the contemporary and for a future semiotics of culture(s): semiosphere, formation, and translation. Starting from the structural paradoxes of the idea of semiosphere, developed in the 1980s by Juri Lotman, the chapter proposes a dynamic and global idea of culture(s) based on a relationalist approach. The idea of formation enables the mapping of different types of semiotic relations pertaining to the study of culture. At the same time, the concept of formation encapsulates the concepts of sign, text, discourse, and language. The concept of formation assumes a central role in the description of the various modes of translation and in the understanding of the implications of translation on the constitution or on the transformation of common sense and reality. The chapter proposes to consider translation as a key concept that allows the articulation of different semiotic visions and schools as well as the analysis of some of the most interesting and thorny dynamics and devices of actual cultural life.

Augusto Ponzio has been writing since the mid-1960s producing a quantity of publications not easily equalled, as a glance at his complete bibliography will reveal. He investigates themes and methodologies within the spheres of philosophy of language, general linguistics, and semiotics with a special focus on problems of language and communication, translation and ideology, literary theory and critique, signs and meaning, and value and behaviour. In “Signs, Language and Life: Pathways and Perspectives in Augusto Ponzio’s Scientific Research”, Susan Petrilli understands Ponzio’s work in a semiotic and transdisciplinary framework that historical, literary, philosophical, sociological, and economic-political critiques are united in their common interest for signs. Semiotic critique is also critique of all

forms of ideological separatism and of pseudoscientific specialism, including the separation between human sciences and natural sciences. As he explains in a brief bio-bibliographical note, Ponzio developed his theoretical interests with special reference to authors such as Mikhail Bakhtin, Emmanuel Levinas, Marx, Adam Schaff, and Ferruccio Rossi-Landi: “from these authors I have developed what they share in spite of their differences, that is, the idea that the life of the human individual in his/her concrete singularity, whatever the object of study, and however specialized the analysis, cannot prescind from involvement without alibis in the destiny of others”. Ponzio searches for the sense for man of scientific research in general and of the general science of signs in particular. His quest is oriented by the Husserlian distinction between “exact science” and “rigorous science”. And developing this particular trend, Ponzio arrives at his formulation of the concept of “ethosemiotics”, “telo-”, or “teleosemiotics”, subsequently developed into “semioethics”.

In the light of the above, “Even Signs Must Burn: From Semiotics and the Modern City to Jean Baudrillard’s Symbolic Exchange and the Postmodern City” is divided in three parts. The first part presents a certain limited version of Saussure’s semiotic theory, in order to delve, subsequently, into Marx’s theory and David Harvey’s historic-materialist geography, theorizing how the city is seen in modern times—though as strange as it may sound Harvey’s text is susceptible to the *metaphysics of both utility and language*. The second part highlights some of the refreshing ideas of *spatial-materialist semiotics* that intended to build a telling abridgment between linguistic theory and Marxism (cf. Lagopoulos, Boklund, and Lagopoulou), but eventually it goes beyond Marxism, semiotics, and the modern city as the unit of collective consumption and industrial production, drawing (a) on Baudrillard’s bold declaration that “even signs must burn” explaining what is wrong with signs and semiotics and (b) Derrida’s *hauntology* and *spectrology* unsettling the myth of utility in Marx. The third part, by Thanos Gkaragounis, (i) unpacks what sort of “language” will be probably needed in order an alternative (differential) *semiosis* to hold sway; for Baudrillard there is one “type of exchange” that is not susceptible to semiotics: *symbolic exchange* and (ii) draws some premature conclusions and reflections on the consequences for theorizing the city as part and parcel of what Zygmunt Bauman once indicated with respect to consumption: that we live today in a consumer society, exactly, in the same way our forefathers lived in a society of producers.

Seeing it from a semiotic perspective, musical performance is understood as a communication model in which a series of coded messages are sent or enacted and their meanings received or decoded. For example, in a theatre or opera performance, which has been for a long time subject to semiotic analysis, the meaning is encoded and transmitted through the various systems of staging, such as set, lighting, costume, music, etc. In addition, rich and complex significations are provided by the performers/actors themselves, their bodies, actions, and interpretive choices. All this can be said about the art of music performers as well, and, if we think of a musical performance as a mere actualization of a musical score, we obviously underline the potential density of its semiosis. In “Musical Performance in a Semiotic Key”, Lina Navickaite-Martinelli aims at presenting some possible model

of a semiotic theory of musical performance art that would enable an analysis of the activity of musical performers based on the musical, cultural, and social messages generated and sent by them. From the methodological point of view, the core of the present analysis consists in the application (sometimes adaptation) of some important models produced within musical semiotics, such as Gino Stefani's theory of musical competence, certain aspects of Eero Tarasti's existential semiotics, plus the addition of the author's own formulations.

Maps are visual representations which, like pictures, can exist either on paper or in people's minds as so-called mental maps. "Cartosemiotics" is the semiotics of maps, which therefore comprises both the semiotics of cartography and the semiotics of mental maps, which belongs to the field of cognitive science. It is situated between the semiotics of pictures and the semiotics of codes: since maps often contain written language and are made according to certain cartographic conventions, they also need to be decoded. Combining graphic and textual elements, they are semiotically very complex. Maps are instruments that are useful for both orientation and communication, which is why they are ubiquitous throughout human history. A map aids the map user in her or his search to find their way in a space. It locates us as subjects in the world: whether we want to explore our physical, symbolic, or immaterial worlds, we need to know where we are and we need to communicate that to others. But how do maps make meaning for their users, and, more fundamentally, what precisely is a map? This is what Christina Ljungberg explores, in particular looking at the diagrammatic function of maps.

In "From Semiosi to Semioethics", John Deeley asserts that "rights" have their roots in responsibility. Deeley's chapter addresses the question of where in nature does "responsibility" enter in to the interactions among finite beings, to argue that the answer lies in the "metasemiosis" whereby human beings, in contrast to animals and indeed living and nonliving nature as a whole, whereby human consciousness becomes aware of the consequences of human behaviour both within human society and also on the surroundings both biological and physical. Thus, responsibility proves to be a species-specifically human phenomenon, and whatever "rights" there are can only be understood rightly as corollary to the responsibility that human animals must take for the consequences of human actions.

The highly punitive and carceral dominance of the justice system in the USA has no global peer explains Jonathan Arendt in "Seeing 'What We See': Beyond Projection and Representation of Criminality in Mainstream Media". Attitudes towards criminals and their sentencing grow stiffer, but often without social interrogation of those attitudes and their origin. One of the primary influences are the media representations, "projections", of criminality particularly as broadcasts increase the metonymical relationship between criminals and colour. Cultural studies, generally, and semiotics, specifically, provide a means of transcendence beyond those representations and a manner of inquiry by which they can be deconstructed. The racialization of punishment in the USA is discouraging enough, but the author's work with incarcerated juveniles highlights the aggravated impact such attitudes and measures are having on the nation's youth.

The “age of information and knowledge” continues to generate, in repeated and staggering abundance, multiple varieties of texts, discursive models, specialized jargons, and increasingly sophisticated communicative technologies. When combined with the fragmented world views and conflicting moral orders of complex post-modern and postcolonial societies, the very processing of this polysemic messaging stream raises the critical issue of how significant data may be recognized as such, processed, and transformed into effective know-how. During the second half of the twentieth century, this interpretive dilemma resulted in a pragmatic shift for defining information and knowledge based on the perception of the user or receiver. In “Applied Cultural Semiotics, Interculturality, and Action-Research”, Roger Parent illustrates how the pragmatic and phenomenological shift in information and knowledge management reinforces the critical importance of cultural semiotics for resolving complex sociocultural and organizational issues. As its starting point, analysis will document this shift by examining how think tanks evolved in the last half century from conventional “top down” institutions to more recent “bottom up” approaches to community-based problem solving and action-research. In both models, the issues of information and knowledge intersect with those of politics and power to solve specific issues and inform decisional process. The chapter traces the many parallels between Tartu cultural semiotics and models derived from Kurt Lewin’s approach to action-research. These interdisciplinary parallels highlight how the pragmatic shift with respect to knowledge and information management is currently questioning the conventional hypothetico-deductive model for problem solving across cultures and organizations. Instead, organizational theory has moved to an emerging paradigm, often referred to as “whole systems change” or as “large group interventions”.

Since its inception by Hegel (under the rubric of *Geistesgeschichte*), intellectual historiography has traditionally demarcated a particularized “subgenre” of general historiography faithful to the “master” discipline in the degree of its adherence to the same epistemologico-theoretical precepts of representing the reality of human actions and events. In “Reading the Subject of History: From Semiology to Poststructuralism”, Peter Pericles Trifonas explores the transdisciplinary breadth of sources that have re-inscribed the nature of its praxis (e.g. philosophy, anthropology, sociology, linguistics, psychology). The problem of the autonomy of intellectual or cultural history in the field of historically oriented studies of culture is compounded by the fact that the problem of the autonomy of intellectual historiography does not strictly preclude its differentiation from the means for maintaining relevant inter- or intra-disciplinary distinctions. It posits a priori a unified expression of identity that is in this instance absent, without a teleological justification, without a definitive reason. Trifonas engages his need to re-examine the conceptual ground of intellectual history has demanded as its equivalent in application, the reflexive modification of praxis. What would a rethinking of history entail after the “linguistic turn” of contemporary theorizing around the writing of history? How would the discipline of intellectual history be changed in its theory and practice?

The critical task of semioethics implies recognition of the common condition of dialogical interrelation and the capacity for listening, where dialogue does not imply a relation we choose to concede thanks to a sense of generosity towards the

other, but on the contrary is no less than structural to life itself, a necessary condition for life to flourish, an inevitable imposition. In “Identity Today and the Critical Task of Semioethics”, with specific reference to anthroposemiosis, Susan Petrilli focuses on the concrete singularity of the human individual and the inevitability of intercorporeal interconnection with others. The singularity, uniqueness of each one of us implies otherness and dialogism. Semioethics assumes that whatever the object of study and however specialized the analysis, human individuals in their concrete singularity cannot ignore the inevitable condition of involvement in the destiny of others, that is, involvement without alibis. From this point of view, the symptoms studied from a semioethical perspective are not only specified in their singularity, on the basis of a unique relationship with the other, the world, self but also above all social symptoms. Any idea, wish, sentiment, value, interest, need, evil, or good examined by semioethics as a symptom is expressed in the word, the unique word, the embodied word, in the voice which arises in the dialectic and dialogical interrelation between singularity and sociality.

Placing the essential dialectical process comprehending the living form’s *Innenwelt* and its construed *Umwelt* at the core of semiosis of cognition model aims to capture the existential dynamics responsible for every semiotic process, highlighting the fundamental role played by meaning assignment in the production of behaviour. In “The Street: The Ultimate Locus of Political Intervention in Modern Democracy”, Maria Isabel Aldinhas Ferreira applies that initial model to the analysis and comprehension of social phenomena, taking the present Portuguese social situation as a case study, in the context of the economic crisis of the Eurozone. The chapter focuses on the role played by the street as locus of political expression and interaction when political institutions fail to respond to the community’s incorporated beliefs and deep expectations.

Semiotics, in its many forms, presents a rich and multifaceted framework for comprehending many different kinds of natural and artificial processes. “Sign Functions in Natural and Artificial Systems” presents a naturalistic framework for explaining how signs realize basic informational functions in biological organisms, social organizations, and artificial devices. Several different conceptions of signs and information exist in contemporary discourses about semiotics. These encompass functional, epistemological, and structural perspectives in which signs are distinguished, respectively, by uses, appearances, and alternative physical states. Functional semiotics examines how signs work in terms of their operational relations. In engineering terms, this concerns what constitute “the signals of a system”, how alternative sets of signals are formed, transmitted, transformed, stored, and used to carry out useful functions. Such a functional semiotics provides a general framework for understanding signs and signals that can be applied to organisms, nervous systems, social organizations, and artificial devices to describe their internal operations and informational transactions with their environs.

In this chapter, Peter Cariani outlines a theory of how we might distinguish semiotic from nonsemiotic processes in natural and artificial worlds, what roles signs play in computational systems, observing systems (scientific models), percept-action systems, purposive systems (cybernetic agents), and living systems.

Different operations involving signs (computations, measurements, sign-directed actions, evaluations, steering) are discussed in the context of informational functions, such as sensing, coordinating percepts and actions, memory, steering and goal seeking, and organismic construction. The chapter gives a common underlying explanatory framework for cybersemiotics, biosemiotics, and neurosemiotics.

Semiotics is the study of signs, of the fields out of which signs emerge and on which they are dependent, and, especially, of the *actions* of signs (semiosis) within (and between) those fields. In “Semiotic Modeling: A Pragmatist’s Guide”, John Coletta presents an overview of the modern history of the attempt to understand and, especially, to model semiosis. He focuses especially on the modern history of the attempt to model semiosis in *pictographic terms*. In other words, Coletta discusses the modern history of the production of *visual icons* of semiosis—including pictographic models of anthroposemiosis, of zoo- and phytosemiotics, of physiose- miosis, and of the interaction of these spheres. Indeed, he examines how the process of semiosis has succeeded in producing visual icons of itself.

In “Semiotics of Computing: Filling the Gap Between Humanity and Mechanical Inhumanity”, Kumiko Tanaka-Ishii surveys the current of semiotics of computing and shows a perspective leading towards computational semiotics. The chapter opens by describing the signification of a train of thought as a semiotics of computing. People have attempted to process a variety of phenomena in terms of computing, and the only form of language exceeding this coverage occurs in natural language. This is because computing is implemented through description by computer programs, which are written in formal, well-defined languages having interpretive processes external to those of human languages. The application of semiotic theories to computing, therefore, can help reorganize semiotic theories themselves and enable consideration, in a coherent manner, of the universal and specific natures of signs in machine and human language systems.

After reasoning through this signification, the chapter surveys different approaches taken with respect to applying semiotics to computing. In recent years, there has been a growing interest in semiotic analysis of computing, as can be seen from the various approaches taken in this light.

Contemporary semiotics has two faces. The first is that of a “scientific” subject, interested in universal forms of narration and above all in a precise set of concepts that should prescribe and therefore guarantee the research results. The second face is that of a “literary” or “philosophical” discipline, looking for the richness of meaning, for the swerve and complexity of interpretation. Two exemplar semioticians appear to incarnate this distinction. To his detractors, Algirdas Greimas built a theory that is strict to the point of being useless, repeating schemes of no interest for anyone, in an involute language producing sectarianism. To his detractors, Umberto Eco’s work is episodic, impossible to teach as a method and incapable of really grafting pragmatism into structuralism. This is why, if we want to rethink semiotics again, we should take a step back for a moment, trying to think beyond this impasse. To accomplish this, we will refresh the set of tools that Barthes developed during the 1960s, showing that semiotics did not outdo Barthes, and this is why Semiotics can still be thought as a unitarian discipline. In “Standing on the Shoulders of Giants. A

Semiotic Analysis of Assassin's Creed 2", Dario Compagno performs an analysis of a popular computer game (Assassin's Creed 2, by Ubisoft) to better understand the game and to show that Barthes's approach—read from the standpoint of contemporary semiotics—is still the most comprehensive, useful, synthetic, and specific. Digital games are one of the most innovative languages of today. They borrow meaning strategies from the literature, cinema, and traditional games. Digital games share the values and expectations of their players, who are also consumers of other languages and media; this is why digital games are a major player in today's cultural translation and appropriation. However, contemporary game theory (developed on the works of pioneering scholars like Espen Aarseth and Janet Murray) often fails to acknowledge the cultural importance of this medium, thinking of it as a totally unique form of expression, with special rules and few connections with the rest of culture. Game theorists are often still game designers, capable of seeing only within the limits of their specialized domain, and incapable of accounting for general regularities of meaning going across different languages. As a consequence, game theorists often refute any theoretical effort like semiotics that has already been done to talk about forms of expressions in their own terms. Compagno's analysis of Assassin's Creed 2 aims to show why digital games are forms of expression like all others, declining with their proper means general meaning strategies and regularities. We see that a digital game is a text because it is a texture of codes. The player has to be lured with the use of enigmas; he/she has to participate in actions that have to be named and interconnected in order to be understood. The game world is built with cultural references coming from a far past; characters and places have semantic traits contrasting them to each other and manifesting the values at play; and some special elements of the game activate a symbolic reading that links Assassin's Creed 2 with an infinite number of other texts. If each language is specific in the ways to produce meaning, what is most important for culture shows itself across all times and languages.

In "Virtual Worlds as Marketing Environments: The Case of Second Life", Nicky-Athina Polymeri examines the use of virtual environments, and especially the game of Second Life, from a marketing perspective. The gaming industry is an important factor in the modern economy and the revenues of the virtual goods sold every economic semester of a year are rising significantly. In addition, more and more companies are trying every year to enter the virtual reality of these games that are offered online. The purpose is to achieve better profits and to market their products and services to the virtual communities and hence residents of these worlds. However, some campaigns seem to be more successful than others and some companies are better accepted from the residents. The chapter explores the nature of gaming in Second Life and sheds light on the marketing activities in virtual worlds, as well as the perceptions of the existing activities from the part of the residents.

Cognitive semiotics is a new trans-disciplinary field focusing on the multifaceted concept of meaning, integrating methods and ideas from semiotics, linguistics, and cognitive science. Jordan Zlatev provides an overview of research in the chapter "Cognitive Semiotics" that has contributed to its emergence, and examples of ongoing research. On the basis of this survey, the following features are deemed to distinguish cognitive semiotics from other synthetic approaches in the areas of

mind and meaning: (a) emphasis on the “conceptual–empirical loop”; (b) ontological pluralism and methodological triangulation; (c) influence of phenomenology; (d) meaning dynamism; and (e) the ambition of true trans-disciplinarily. Ultimately, cognitive semiotics aims to provide new insights into the nature and culture of human beings and other meaning-making creatures, and thereby to contribute to the reconciling natural science and the humanities.

For individuals diagnosed with autistic spectrum disorders (ASD), the senses and sensory perception and integration are both the authority and the warrant by which disablement and psychiatric intervention are rationalized as the purview of medical and institutional power/knowledge. In “Embodied Semiosis: Autistic ‘Stimming’ as Sensory Praxis”, Jason Nolan and Melanie McBride contend that this is, by and large, a semiotic process that discursively constructs the autistic in a deficit-driven language of disease rather than difference. Within the medicalized semiotic domain of autism as disease, autistic sensory experience is classified as a sensory integration “disorder” (i.e. American Psychiatric Association, 2011) that also, simultaneously, reinforces and produces a normative sensory ideal. This semiosis of medicalized discursive practices reduces the disabled person to an essentialist biological body. Recognizing the discursive and semiotic nature of disablement, autistic self-advocates (also self-identified as “neurodiverse”) coined the term “neurotypical” to define non-autistic subjectivity, sensory orientations, and social norms on their own terms. As with deaf culture, the neurodiversity movement defines itself as a social and cultural rather than impairment. Against this normative imaginary/ideal, the “lived body” of persons with disabilities such as autism becomes a semiotic site of struggle between the deficit-driven and pathologizing rhetorics of disease-driven medical models and the counter-narratives of the neurodiverse.

In “Heterarchical Semiosis: From Signal-Transduction to Narrative Intelligibility”, Luis Emilio Bruni offers a framework for contributing to bridge the gap between biosemiotics, cognitive semiotics and, eventually, cultural semiotics. Instrumental to this bridge is the discussion about semiotic thresholds and the hierarchical organization of semiotic processes in nature. Therefore, as a starting point, the chapter reviews and compares four different models of hierarchical organization of semiosis implying different semiotic thresholds. The current debate seems to put too much exclusive emphasis on evolutionary issues at the cost of paying little attention to the developmental questions in synchronous embedded semiotic processes, which are the focus of the chapter. It is argued that a sound description of such processes needs to challenge a view that adheres to a strictly hierarchical organization, being preferable to opt for a heterarchical approach. What is important to map in these models of hierarchies is the continuity and/or the causal links of the increasing semiotic freedom from the lowest to the higher levels, which is then what determines not only the (evolutionary) transitions from proto-intentionality and subjectivity to the full-blown versions but also the heterarchical embeddedness of these levels which are by necessity manifested in simultaneity.

Structuralism in linguistics has influenced A. J. Greimas’ semiotic methodology of text analysis as detailed in the form of structural semantics. The method itself has become the core technique of semiotic text analysis of the influential “School

of Paris” founded upon the premise of the existence of a semantic universe prior to the articulation of narrative structures. Defining the text as a discursive micro-universe places the text in the position of autonomy excluded from extralinguistic phenomena in text analysis. The organization of discursive structures as narrative creates a distinction between two levels of representation and analysis: a manifest or surface level and an immanent or “deep” level. In “From Semantics to Narrative: The Semiotics of A. J. Greimas”, Peter Pericles Trifonas analyzes the embodiment of semantic structures in discourse on a micro-scale, that meaning is achieved through articulation by means of elementary axiological structures of value categories. According to Greimas’ semiotic method, these arbitrary universals are the starting point for analysis of the semantic universe yet can never be isolated in pure form, but only when articulated.

“The Spectator’s Reality: A Revision of Screen Space Aesthetics through Cognitive Film Semiotics” by Michalis Kokonis is part of a larger research project in which he attempted to investigate and review certain aspects of film language with new insights offered by cognitive semiotics. Issues concerning the perception, comprehension, and evaluation of screen images, that is, essentially issues concerning image aesthetics are actually about the organization and experience of space. The reference implicit in this last phrase, of course, is made to the imaginary cinematic space, the “built” space of narrative film, as opposed to the so-called locative spaces of everyday lived experience, a point for reflection and debate among the target subjects of semiotic space set in the European Regional Congress in 2011. Cinema, the most representational of the arts and a potent narrative art form, depends on the aspects of space and time for the articulation of narrative meaning. Thus, the “*differentia specifica*” of cinema, its inherent characteristics that diversify it from other art forms, have been registered in film theory through the notions of “frame” and “*mise-en-scène*” (space) and “montage” (time). The scope of this chapter limits the discussion to the concepts of frame and *mise-en-scène* mostly, which bear upon the co-ordinate of “space” in the structure of any filmic text.

For Maria Isabel Aldinhas Ferreira, cognition is the embodied, embedded, and always situated process whereby life forms become viable and effective in their specific environments. A life form and its environment constitute an essential unit, a microcosm. This microcosm is sustained by a privileged dialectic relationship—*semiosis*—in which the embedded agent—an entity endowed with a particular physical architecture—and its specific environment, coupled, mutually influence each other. Independently of the type of cognition or the level of semiotic complexity involved, meaning is always a value—a structured entity. This value is assigned by the cognitive agent to particular environmental features that, because of the existential needs imposed by the agent’s physical nature, emerge in the environment as salient. In “*Semiosis: The Dialectics of Cognition*”, Ferreira argues that the *semiosis* that characterises human cognition meaning is encapsulated in symbolic forms producing entities of differentiated nature and ontological status, reified instances of collective and individual experience, consciously incorporated through language. The consistency of our experience and the fact that through language this same consistency can be verified and confirmed by the experience of others leads

her to believe that this is an experiencer-independent reality, an “objective reality”. However, the concept of objectivity can never be equated with the concept of a reality external and independent of the experience subject. The idea of objectivity can only be understood as resulting from the interpersonal agreement about the nature and form of the experiences issued from the dialectic interplay between organisms endowed with the same cognitive resources and facing identical environmental conditions.

The term “text” has evoked various meanings according to particular disciplinary perspectives. In cognitive psychology, it has been represented as the sum total of the author’s propositions; in semiotics, as the set of lexical, or visual, signs, which act as cues to guide the reader’s mental decoding operations. Structuralist theory determined the text to be an object of defined structures and signifying properties. Some proponents of poststructuralist theory have examined “text” as the substantive equivalent of the author’s productivity in the process of communication as a social exchange of thought. Others have cultivated a notion of “text” where meaning making on the part of the reader is considered to be a generative movement embodying a semantic process of infinite regression which negates objective meaning and renders the written word indeterminant in relation to a seemingly uncontrollable non-metaphysical networking of interpretations. In “Text and Images”, Peter Pericles Trifonas determines how the meaning-expressive potential of the lexical and pictorial forms of signification is defined. To this end, semiotics provides a theoretical and methodological framework for isolating and explaining the levels of meaning, both of language as text and the image as pictorial text. By no means exhaustive, the chapter highlights some of the main philosophical and theoretical implications concerning semiotics, language, meaning making, and pictorial text and reconciles them in the second half of the chapter towards the development of a viable semiotic methodology for analyzing pictorial text.

In “Becoming a ‘Mythologist’: Barthes’ Mythologies and Education”, Jesse Bazzul intends the chapter to be an example of how educators can become “mythologists”. Drawing primarily from Roland Barthes’ *Mythologies*, Bazzul argues that Barthes’ semiological and ideological descriptions of myth can be useful tools to confront what is given as natural, commonsensical, or depoliticized in education. After giving a synopsis of the essay, “Myth Today”, where Barthes lays out his theoretical semiology for myth, Bazzul maintains that educators can engage in myth(ologist) writing to disrupt taken-for-granted cultural practices. In the latter section of the chapter, he provides four pieces of creative non-fiction (The Administrators Speech, International School, False Debates in Science Education [FOS versus NOS], and The Rubric) which serve as beginning examples of how such myth(ologist) writing could be done for those who work and live in the field of education.

The term edusemiotics indicates a novel interdisciplinary field of inquiry that has emerged as a result of Inna Semetsky’s research in educational philosophy and semiotics. In “Edusemiotics and the Language of Images”, she explores the semiotics of tarot images as a mode of cultural informal pedagogy. We learn from experiences that are expressed in the language of images, thus discovering their implicit

meanings that hide deep in the unconscious. The chapter draws from Charles S. Peirce's triadic semiotics and Nel Noddings' relational ethics. As embedded in the dynamics of semiosis across nature, culture, and the human mind, the process of reading and interpreting tarot signs establishes a connection between matter and mind, self and other, subject and object, thus overcoming Cartesian substance dualism in practice. The chapter outlines implications for moral growth and the evolution of consciousness.

Education plays a crucial role within civil society. This role is discussed and defined within educational discourses. According to these discourses, education has to ensure a successful socialization process and thus enables social stability and providing human resources for society. Subsequently, the educational field developed self-understanding and self-legitimization discourses with specific dichotomies and a specific semiotical code. In "Semiotics of Western Education", David Kergel reconstructs via a genealogical method, the semiotical code of the educational field, and analyzes the changes, which the code is submitted in course of the centuries especially from modernity to postmodernity until the current meaning of education in a globalized world.

In "Capitalists' Profitable Virtual Worlds: Roles for Science & Science Education", J. Lawrence Bencze and Lyn Carter argue that many places in the world, school science and fields of professional science, and technology/engineering appear to be enmeshed in a global economic system that prioritizes the enrichment of relatively few holders of capital, largely at the expense of the wellbeing of many individuals, societies, and environments. A major feature of this system—particularly in the so-called knowledge economies/societies—is an emphasis on creation of flexible consumer desires for idealized abstractions that may repeatedly occlude profitable compromises to products and services. Utopian images mask dystopian realities. Pretty containers and promises of health and happiness may, for instance, distract consumers from low nutrient and high artificial ingredient content in manufactured foods. The chapter identifies how such a consumerist ethos seems to be facilitated, in part, by school science in many jurisdictions. Fields of science are, for example, portrayed in school science as overly systematic, unbiased, and unproblematic for individuals, societies, and environments while, often, their professional practices may be compromised through business partnerships. In a sense, like capitalists, school science often presents students/citizens with veritable Trojan Horses—desirable on the outside, but hiding dangers within. Bencze and Carter believe that for the betterment of individuals, societies, and environments, capitalism needs to be transformed in ways that prioritize the common good. Barring that, given capitalists' power, corresponding changes to school science may help in this regard.

"It's Like You're a Teacher!: A Social Semiotic Analysis of Authority Relations Among High School Mathematics Students" draws on a social semiotic perspective to understand how this shift in authority relations relates to the interpersonal meanings and social positions that become constructed in talk during collaborative student work. Jennifer Langer-Osuna and Indigo Esmonde pursue a social semiotic perspective on how students take up and respond to these new forms of authority afforded to them may illuminate some of the challenges that educators experience in

implementing these promising classroom practices. One challenge is that particular kinds of actions in the classroom take on new meaning. In traditional classrooms, when a teacher questions a student about a mathematical statement, the implication is that the student was incorrect. In line with current visions of effective mathematics classroom practices, teachers now routinely ask students to explain their reasoning, for both correct and incorrect statements. Researchers and educators have not sufficiently considered the possibility that these shifts in subject positions, while potentially beneficial for student learning, may also be wrought with tensions. In this chapter, Langer-Osuna and Esmonde present some vignettes of mathematics classrooms that represent this state of transition.

In “If you could see what I see”: the Semiotics of “Invisibility” in Pedagogy and Practice”, Marc A. Ouellette and Kane X. Faucher present an account stems of the ongoing frustration and confusion among those taking and teaching the school and society course, in the winter 2011 term at the Ontario Institute for Studies in Education (OISE). One of the sources of tension for a significant portion of the representative cohort during the semester remains the idea of “invisibility” as it has (and has not) been presented in the course. While “critical pedagogy” looms over every course, the cognitive and affective responses to this particular course, especially from a cohort group—School, Community and Global Connections—which should have been the most clearly allied with its emphasis, indicate that a formative grounding in crucial semiotic concepts remains necessary and yet has been assumed or, worse, elided within teacher education. Indeed, some degree of angst has been palpable and at each and every turn, if not voiced by the bearer(s). My own very visceral discomfort stems from two locations: first, within the course the semiotic grounding of “invisibility” has never been defined precisely and instead has been used as an umbrella term for a series of disparate processes, each of which has been clearly enumerated and analyzed for some time within the interdisciplinary arc of semiotics and subsequently elaborated by cultural studies scholarship; second, it confuses me to no end that the enlightening specificity of the existing critical paradigms remains underutilized given the equally confusing resistance to the interrogation of these topics by a cohort whose purported unifying theme is sensitivity to issues in global education and to the connections between global issues and local education. However, this resistance has everything to do with the “invisibility” the course hopes to explore, but can really only be understood through the intellectual infrastructure afforded by the more precise critical vocabulary offered in and through a return to semiotic analysis. Indeed, this experience presents an important opportunity to reconsider the place of semiotics not only in teacher education but also in the formative fields that produce candidates.

According to Rachel Pinnow in “A Patriot is Respectful: (Re-)Examining the Architecture of Ideology in Educational Contexts”, zero-tolerance policies in schools have resulted in a culture of surveillance, criminalization, and militarization that has been the product of political, legal, and technological mechanisms of power intersecting the school landscape. The emergence of this surveillance terrain in schools is heavily linked to Foucault notions of governmentality and surveillance, which can reproduce subjects as “docile bodies”, doing so without brute force but rather

through the panoptic gaze and “petty mechanisms” that direct and control individual bodies in time-space, forms of dress, and corporeal discipline. One outcome is that student bodies are pre-emptively represented as instruments of danger, with the school shifting from viewing the body as a social investment to viewing it as a threat to security. Through a social semiotic perspective, it is possible to locate and concretize practices in schools thus revealing how criminality is constituted as an object of knowledge, and how certain “consciousness” of criminality could be formed. The constitution and circulation of criminality as an object of knowledge in schools appears to hinge upon how representations of criminality are established and linked to particular individuals and groups, more specifically through the practices that connect semiotic signs of danger to students’ bodies in everyday life.

This ethnographic case study examines the semiotic process through which one middle school establishes, circulates, and connects signs of criminality to particular student groups and in doing so engenders an overall surveillance environment for all students. Findings indicate that when one particular student group, in this case Latino students from Mexico, is surveyed and framed within a pre-emptive criminal perspective, the environment of the school for all students is impacted, creating an ecology of surveillance and mistrust.

Semioticians primarily focus on signs as ready-made entities, studying issues such as sign interpretation and semiosis. The question of the origin of signs is rarely asked. In “The Emergence of Signs in Hands-On Science”, Wolff-Michael Roth argues that to have a useful theory of the sign we need to have a theory that can explain how human sign forms come into existence from other sign forms (studied by zoosemiotics or phytosemiotics) in the course of evolution. In this chapter, I use concrete case materials from a high school science laboratory that show when, where, and how signs actually come into being: from hand movements that do work or serve an epistemic function (exploration) one observes the emergence of signs when the same movements are used for symbolic purposes. I draw on the French nineteenth-century philosopher Maine de Biran and his major interpreter Michel Henry (1922–2002) to develop a conceptual framework that explicates the emergence of signs from movement signifying nothing other than themselves. In subsequent morphogenetic developments (which I model using Rene Thom’s catastrophe theoretic formulation) the self-signifying sign “doubles” such that a true two-term signifying relation emerges.

In “Extending Students’ Semiotic Understandings: Learning About and Creating Multimodal Texts”, Katina Zammit examines how the texts of the twenty-first century employ a range of semiotic modes to convey their message. In order to work with these texts in classrooms, students need access to how meanings are created using the written, visual, and sound modes. Scaffolding of students learning to create multimodal texts begins with the teaching and learning of how a text is constructed. Deconstruction of the organisation of multimodal texts provides opportunities for the teaching of the grammars of written and visual texts, and the selection of relevant sound. This chapter explores how teachers scaffold students learning about multimodal texts in context in order to prepare them to create their own multimodal texts. It focuses on the teaching of the written and visual modes

as separate entities and as a single unit of meaning. Selection of sound or audio to complement the written and visual modes is discussed. Students' final products provide evidence of their use of different semiotic modes to create a text that conveys their understandings within a content area. Data are drawn from work with students in the four classes from an inner-city primary years: year 3, year 3/4, year 4/5, and year 5 classes.

Peter Pericles Trifonas is a professor at the Ontario Institute for Studies in Education/University of Toronto. His areas of interest include ethics, philosophy of education, cultural studies, literacy, and technology. Among his books are the following: *Revolutionary Pedagogies: Cultural Politics, Instituting Education, and the Discourse of Theory*, *The Ethics of Writing: Derrida, Deconstruction, and Pedagogy*, *Ethics, Institutions and The Right to Philosophy* (with Jacques Derrida), *Roland Barthes and the Empire of Signs*, *Umberto Eco & Football*, *Pedagogies of Difference*, *Deconstructing the Machine* (with Jacques Derrida), *International Handbook of Semiotics*, *Counter Texts: Reading Culture*.

Part I
Historical and Conceptual
Foundations of Semiotics

Chapter 2

Semiotics “Today”: The Twentieth-Century Founding and Twenty-First-Century Prospects

John Deely

2.1 Preliminary Overview

...since the life of signs does not stop, of course,
with their fixation into objects...existential signs...
are always in a state of becoming...pause is always temporary. (Eero Tarasti 2000, p. 7)

Interest in signs as a thematic or distinct subject matter of *general interest* in intellectual culture was a phenomenon first witnessed in the twentieth century, under the title of “semiology” (from Saussure) in Western Europe and “semiotics” in Eastern Europe (from Juri Lotman [28 February 1922–1993 October 22]), who based his theory on Saussure but also knew, unlike Saussure, of John Locke’s earlier suggestion for a name). Thus, the original twentieth century general interest in signs stemmed, both East and West, from the work of the Swiss linguist Ferdinand de Saussure (26 November 1857–1993 February 22). Independently, and slightly earlier than Saussure, the American philosopher Charles Sanders Peirce (10 September 1839–1914 April 19) had also taken up such a study, which he called “semiotic,”¹ and he called the action of signs, from the study of which semiotic knowledge is culled, “semiosis.”

The original Saussurean view centered on language as a species-specifically human form of communication, and limited its perspective on signs to the realm of culture. In 1963, Thomas A. Sebeok (9 November 1920–2001 December 21) entered the discussion with his argument—demonstration, more accurately—that *all* animals, not only human animals, make use of and communicate through signs, whence he expanded the understanding of sign activity (or “semiosis”) to the whole of the animal kingdom.

¹ See <http://www.cspeirce.com/menu/library/aboutcsp/deely/clearing.pdf>.

J. Deely (✉)
University of St. Thomas, Houston, TX, USA
e-mail: jndeely@stthom.edu

Now of course a sign, to succeed as such, must not simply represent something other than itself (as in the Saussurean *signifiant/signifié* model), but must make that “other representation” to some third, the interpreter of the sign. For Sebeok, this “third” was some—any—animal; but Peirce had introduced an argument that this “third” or “interpreter” need not involve a “mental” event, whence he proposed that the third element required for there to be semiosis should be called rather an *interpretant* than an “interpreter,” thus opening the way for an understanding of signs that went beyond the world of animal interactions.

Sebeok, as Editor-in-Chief of the journal *Semiotica* (in effect a Latin transliteration of the Greek term *σημειωτική* as first found in John Locke’s 1690 original proposal for a “science or doctrine of signs” in the concluding chapter of his *Essay Concerning Humane Understanding*), in 1981 published an article by Martin Krampen demonstrating signs at work no less in the plant world than in the world of animals, leading Sebeok to formulate the thesis that “sign science is coextensive with life science.” This thesis became the basis for the more general study of signs known today as *biosemiotics*, i.e., knowledge culled from the study of the action of signs in the human world (“anthroposemiosis”), the animal world generally (“zoösemiosis”), and the world of plants (“phytosemiosis”). In 1989, at the Harvard Peirce Congress of that year, Deely, combining the previously unknown to modern culture semiotic of John Poinset (9 July 1589–1644 June 17) with Peirce’s notion of interpretant, argued further that a semiosis (what he called “physiosesemiosis”) was at work in the physical universe prior to and surrounding the advent of life, in moving the universe from its original lifeless condition to the condition of being able locally to support living things in the first place.

Sebeok was also the first to make the point that semiotics provides the only trans-disciplinary or “interdisciplinary” standpoint that is *inherently* so; in other words, semiotics thematizes the study of what every other discipline had (perforce) taken for granted—semiosis.

As the twenty-first century began, the twentieth-century development of semiotics had “gone global,” and the central organizing figure in that amazing phenomenon, from 1963 onward, was neither Peirce nor Saussure, but Thomas A. Sebeok.

The present chapter provides an overview of the twentieth century semiotic development, and attempts a projection of the twenty-first century trajectory semiotics is bound to follow in the transition (or transformation) from the modern Enlightenment intellectual culture between Descartes and Peirce to the truly *post*-modern intellectual culture within which the development of semiotics has proven to be the central positive force.

The chapter develops through four subsequent sections.²

² As follows: Sect. 2.2. Outline of the Framework; Sect. 2.3. Overview of the Semiotic Development; Sect. 2.4. Projecting What We Have Learned About Interdisciplinarity: From 330 BC to c. AD 2075; Sect. 2.5. Parting Summation; *Appendix*: Sebeok’s Synthesis (the Tartu–Bloomington–Copenhagen School).

Section 2.2 is an outline of the framework within which the semiotic development came to occupy a major place within the intellectual culture of the twentieth and twenty-first centuries.

Section 2.3 provides an overview of the semiotic development as it has occurred within the synchronic framework established as the life time of participants, as that framework nears the inevitable “diachronic turn” where the present author ceases to belong to the living population, which alone defines the nongeometrical reality of “synchrony” as an open-ended “new beginning” which, perforce, will occupy subsequently and diachronically its own “slice of time.”

Section 2.4 presents an analysis in detail of what we have learned—in this transitional synchronic phase (as pointed out shortly below by Petrilli) that we call “semiotics” today—that is of theoretical import for the “doctrine” or (cenoscopic) “science” of signs as it implies and establishes a definitively postmodern and global intellectual culture revealing the inherent possibilities of semiosis as mastered within semiotics to provide the cenoscopic antidote (both transdisciplinary and interdisciplinary) to the intense specialization which alone made possible the ideoscopic development of science in the modern sense (an original “synchrony” in its own right, in the overlapping lifetimes of Galileo, Poinset, and Descartes).

Section 2.5 is a brief conclusion, a “parting summation” (intended especially to finalize the most fundamental sense of “synchronicity” introduced within and applied throughout this essay). The chapter closes with an “Appendix” on Sebeok’s synthesis.

2.2 Outline of the Framework

2.2.1 *Standpoint of the Chapter*

We come from the womb, each of us, with no experience of the “external world” (as the modern philosophers called our surroundings), so it is not surprising that we all begin with a synchronic view that takes no account of history. A first-time visitor to Beijing in 2004 went on a sightseeing walk with two colleagues, both of whom had been to Beijing previously, but not recently. The two kept uttering marveling comments on the changes in the city, till finally their exasperated first-time visitor companion said emphatically: “I don’t see any changes at all.”

Henri Bergson (1859–1941) called it (1907) “the natural geometry of the human intellect,” to wit, the tendency to see everything in terms of the individual’s “here and now,” as if the present were eternal.

Prior experience forces at least some minimal awareness of a difference between past and present, and of future possibilities not all of which are predictable on the basis of either past or present. But to this historical dimension of human awareness there is a resistance, and only gradually do human animals (as distinguished from other animals) begin to take serious account of a past without which their present would not be at all, or of a future which offers unpredictable possibilities

as well as mere extensions of the past. And *only* human animals, precisely through metasemiosiis,³ are able to become aware of a past preceding their own synchronicity yet entering into and influencing that very synchronicity in ways that elude full consciousness even while shaping present consciousness and passing through it “diachronically” by extending the synchronicity of a given life into the larger synchronicity of the species as a whole⁴ in the universe of which it is a part.

This is the a passage from the partial illusion of synchrony to the full reality of diachrony, and both perspectives are essential to the maturation of human understanding; for the present, even though it has no stationary point (inasmuch as each present moment is the simultaneous becoming of past and future), yet is the whole of the “land of the living,” into which new individuals enter and exit, so that the population neither is nor can be wholly constant, determined, once and for all. This side of the grave, for the human as for any animals, there neither is nor can be a “once and for all” synchrony; before conception and birth is too early, after death is too late, and during life the perspective on the external surroundings as it opened at birth is constantly deepening in spite of all,⁵ as our “glassy essence” becomes a veritable “bottomless lake” as we ourselves exit that “land of the living” which, at any given moment, constitutes the “present” population of human animals.

When I speak, then, of “synchrony” in this chapter, I do not mean synchrony in the geometric sense of a timeless abstraction horizontally slicing across human experience for all time, as if with no vertical dimension actual or possible.⁶ I rather

³ “Metasemiosiis” consists in the awareness which the human animal, in using signs as every animal must, achieves with the intellectual realization that *the being proper to signs* consists in triadic relations, invisible as relations to sense perception, transcending every subjective boundary, and upon which every achievement of human knowledge depends. This is the realization identifying the human being, in order to be a “rational animal” (*animal rationale*) or “thinking thing” (or *res cogitans*), as having to be, *yet more fundamentally and integrally*, a **semiotic animal**, the only such animal on earth, with the responsibility that imposes—semioethics, as we will have occasion below to mention. On this term (and on the oxymoronic internal contradictoriness—the simple illegitimacy—of the linguistic expression “metasemiotics”), see Deely (2009b, pp. iii–iv, xiv, 127, 194, 198, 199). (Of course, one can always try, Humpty-Dumpty style [“Words mean what I want them to mean; no more and no less”—see note 132 below], to stipulate a meaning for “metasemiotics” that overcomes the historicity of its oxymoronic baggage; but the arbitrariness of stipulation seldom trumps historicity (see Deely 2009c, Chap. 6), and what really would be the gain of success, anyway, in this case, even should it be achieved?)

⁴ It is the whole problem of a “collective unconscious,” of the Heideggerean “House of Being.” See Deely 2000, 2005.

⁵ Deely 1992a.

⁶ It was in this geometrical sense of synchrony, as we will see, that Saussure (1857–1913) conceived the matter in his original “signifiant/signifié” model proposed for semiotic development in the early twentieth century. Jakobson (1896–1982), more than Lotman (1922–1993), in taking up Saussure’s model, yet qualified its “arbitrariness” sufficiently to leave an opening from Saussure’s own “geometrical synchronicity” to the actuality of “temporal synchronicity” which I employ in this chapter. Actual synchronicity, taken as beginning at any definite “present moment” (e.g., AD 1916), *from that moment* begins to “expand” by constituting a definite temporal cross section within the cultural and intellectual consciousness of a given community—in this case, the “community of inquirers” focused on the matter of signs at work in the world within and around us. The

mean synchrony in the actual or “temporal” sense according to which the present population of living human animals has developed within itself—in contrast to relatively isolated individuals here and there wondering about signs and their role—a veritable “community of inquirers,” species-specifically human, which takes the action of signs as its focus and expands at first mainly vertically (synchronically) but (inevitably), with the passage of time, horizontally (diachronically) as well, especially as living members pass away and new individuals enter the discourse.

It was in this sense of synchronicity, for example, that Susan Petrilli delivered her Sebeok Fellow Address to the Semiotic Society of America on 17 October 2008 (a Thursday, as it happened) on the occasion of the SSA’s 33rd Annual Meeting in Houston, Texas, USA:⁷

In these remarks I want to look at semiotics, as it were, more synchronically than diachronically. It is not the whole history of semiotic development as a consciousness of the fundamental role of signs in life and experience that I want to discuss, but rather the contemporary phenomenon that we today who have lived in both the 20th and the 21st century have witnessed and participated in as the development of *semiotics*. For though there is of course a long history behind the semiotics of today, still there is a sense in which semiotics is, as a widespread intellectual movement, a phenomenon more “of our time” than it is of any time past. So it is mainly of figures alive in the 20th century, and a few of them still alive today, that I want to speak.

So my focus in this chapter is synchronic in the expanding or temporal sense explained above, especially since I have already set out, in my *Four Ages of Understanding* volume,⁸ a “whole history of semiotic development” insofar as such an exposition pertains to philosophy as the basic cenoscopic science. My focus is on “the sense in which semiotics is, as a widespread intellectual movement, a phenomenon more ‘of our time’ than it is of any time past,” however much into the future it will perdure.

2.2.2 Synchrony’s Inevitable Seepage into Diachrony: The Historicity of Human Use of Signs

Yet, indeed, the past is closing in upon us; so much so that we, who are still living members of the societies of human animals who first engendered a “community of inquirers” focused on the action of signs, must already look to the twentieth-century “founding figures,” even among those whom we personally knew and with whom we worked, as no longer living. From them we may still learn, indeed (that is the miraculous aspect of diachrony), but no longer they from us (the main limit of synchrony as intersecting diachrony). We ourselves, indeed, approach that “far

fact that such a community, as a community among the living, definitely formed in the twentieth century, as Petrilli remarks (2008, p. 3), is the synchronic view I want to present in these pages.

⁷ Petrilli (2008, p. 3).

⁸ Deely 2001a, subtitled “The first postmodern survey of philosophy from ancient times to the turn of the twenty-first century” (Toronto, Canada: University of Toronto Press).

boundary” where the community of living inquirers, the “temporally synchronic” investigators of the sign, will no longer include us but only—if anything—our works within its boundaries. At that frontier, in short, we may or may not continue diachronically to influence the future of semiotic development, depending on the fate among the living of our recordings in whatever media; but we will no longer be ourselves subjectively existing and adding “new materials” to the heritage of which we shall have (at that point) become a “past part.”

So our “boundary of time” yields our definition of synchrony in terms of those with whom we can intersubjectively have intellectual exchange, in contrast with the bare suprasubjectivity⁹ of those whose lifetime does not overlap our own, from whom we can indeed *learn* but without the possibility of *their learning* from us, from what we have learned in turn. So synchrony as a temporal reality is a one-way movement into a limited future, in contrast with diachrony, which not only arises from within synchrony but also invades it from a past before the synchrony in question began in the first place, and extends beyond that synchrony into a future accessible only to those who “come after” into the “land of the living.”¹⁰ As far as concerns the formation of a “community of inquirers,” then, beyond the central matter of a “shared focus,” the already dead define the past; the not yet living define the future; the not yet dead define *the present, the “synchronicity”* within which we are influenced by others (living or dead) but can influence directly (through dyadic interactions presupposed to thirdness) only those around us, but beyond them also (through thirdness alone) can we influence some at least of those to come “after us,” i.e., after we no longer exist subjectively involved in interactions and intersubjectivity, though suprasubjectively, through semiosis, we may indeed continue “objectively” in the indirect influences of pure relativity shaping the future in normally unpredictable ways.

From the standpoint of the present, when did “semiotics” begin? The answer already takes us beyond synchronicity, yet not all that far (backward) from the land of the living, if we distinguish the *actual formation* of a community of inquirers properly called “semioticians” from the *nominalist question* of the coinage of the term “semiotics.” The nominalist question, interestingly enough, already involves us in a diachrony whereby the past invades the serious formation of “semioticians” as the phenomenon of a coalescence of twentieth-century inquirers into a community investigating signs and the action of signs. The “invasion,” on this nominalist point, however, does not pass through the work of Saussure, the first actual figure around whom this community began its coalescence, but directly through Lotman who, as a follower of Saussure in the matter of the model proposed under the name of “semiology,” yet departed from Saussure in his choice of name for the new science by reason of a more informed historicity.

Let us, then, treat the two questions—nominalistic, on the one hand, formative, on the other hand—in turn.

⁹ See “Why Intersubjectivity Is Not Enough,” Chap. 9 in Deely 2009d.

¹⁰ See “The Boundary of Time,” Preface to Deely (2001a, pp. xix–xxxiii).

2.2.3 *The Nominalist Question*

The term “semiotics” comes to us¹¹ from a grammatically incorrect coinage by John Locke (1632–1704) in 1690 (December of 1689, to be technical), via a never-expressed Latin derivative *semiotica*, to the present usage of “semiotics” to name “the science”—as Ferdinand de Saussure (1857–1913) put it somewhere early in the interval between 1906 and 1911¹²—that “does not yet exist,” yet “has a right to existence, a place staked out in advance.”

There had been previous discussions of this “science with a right to existence,” most especially in sixteenth- and early-seventeenth-century Spain¹³ and Portugal.¹⁴ The Latins had discussed the question of a (cenoscopic) “science of signs” under the moniker *doctrina signorum*, a usage which goes back at least as far as Augustine of Hippo (AD 354–430).¹⁵ Though neither Locke nor Saussure evinced any least awareness of this earlier Latin development—what we now recognize to have been the original or “first” florescence of semiotic consciousness¹⁶—Locke at least equivalated his coinage as “Σημίωτική or *the Doctrine of Signs*,” in this way, albeit unconsciously, establishing a linkage between his own proposal and the earlier Latin discussion—a discussion not only neglected in Locke’s day¹⁷ but thereafter thoroughly forgotten throughout the whole period of “modern philosophy” as it developed “from Descartes (1596–1650) to Davidson (1917–2003).”

When Thomas A. Sebeok (1920–2001), in 1976, came to write the Foreword to his seminal volume *Contributions to the Doctrine of Signs*, he made a major point of choosing this *doctrina signorum* expression for his title, with a twofold objective: first, precisely to align himself with the longer tradition linking through Poinsoot “the ancients and the moderns in the history of semiotics;”¹⁸ second, to contrast the

¹¹ This is a summary statement of extensive researches into the etymology of all the terminology that has been used in connection with the naming of the study of signs: in particular, besides the references listed in note below, see Deely 2003b, esp. 2004a, 2006c.

¹² Saussure 1916 (=i.1907–1911): 16. But see the detail in note 21 below.

¹³ Where Poinsoot’s culminating *Tractatus* was published in 1632.

¹⁴ Where Poinsoot’s teachers, the Conimbricenses, had published their commentary *De Signis* in 1606, a work which never appeared outside the Latin language until Doyle’s English translation of 2001. This work was a crucial influence on both Peirce and Poinsoot (see Beuchot and Deely 1995).

¹⁵ See Deely 2009c: *Augustine & Poinsoot. The Protosemiotic Development*.

¹⁶ See the “Timeline of Semiotic Development” in Deely 2009c: Appendix E, 237–246.

¹⁷ Ironically, the first systematic treatise fully to establish the semiotic point of view and triadic relation as constituting the formal being of signs, the *Tractatus de Signis* of John Poinsoot (1589–1644), was published in the very year of Locke’s birth, 1632!

¹⁸ Sebeok (1982, p. x). See the biographical account in Williams 2010; and the contrast between the two “manifestos” of Anderson et al. vs. Gardin et al. deliberately published by Sebeok back to face in the 1984 volume 52.1/2 of *Semiotica*. See Sect. 2.3.8 below, at note 66.

cenoscopic nature of semiotics with the ideoscopic approaches which constitute science in the modern sense¹⁹ (and in terms of which Saussure thought exclusively).²⁰

Saussure himself, however, knowing neither Locke nor Peirce, Augustine nor Poincaré, the Conimbricenses nor Lotman, simply proposed his own name for this “new science”:²¹

I shall call it *semiology* (from the Greek *sēmeion* “sign”). Semiology would show what constitutes signs, what laws govern them.

Along with this name, Saussure proposed a model upon which to found or “base” the new science: the linguistic sign understood as providing the “master pattern,” *le patron général*, for the whole development. This proposed “foundational model” consisted in a dyadic relation between, basically, the acoustic image of a word heard, called the *signifiant*, as arbitrarily linked with a concept, the mental representation called the *signifié*. And what about the object *other* than the concept presented by the concept? Especially when that object is also a physical reality, such as a steak ordered in a restaurant, say, or a mineral inside a mine?

There is no room in Saussure’s sign model for any suprasubjective or intersubjective reality respecting the user of signs, linking those users to the external surroundings of physical things objectified, as we will see; Saussure relegates his proposed “new science” of “semiology” to the realm of “general psychology,” even though he demands that this “semiology” be recognized “as an independent science with its own object like all the other sciences.”²² In the beginning, Saussure’s *model* proposed (stipulatively, “arbitrarily,” as it were) to be the basis for the new science,

¹⁹ See the biographical account in Williams 2010; and the contrast between the two “semiotic manifestos” of Anderson et al. on one hand and Gardin et al. on the other hand, deliberately published by Sebeok back to back in the 1984 volume 52.1 of *Semiotica*. See Sect. 13. below, at note.

²⁰ Cf. Sebeok (1976a, p. ix). Commentary in Deely 1975, 1976, 1977, 1978, 1982b, 1986b.

²¹ Saussure (1916, p. 16). As I noted in Deely (2001a, p. 673), however, Saussure’s proposed name for the general study, “semiology,” has been traced back (Godel 1957, p. 275) to November of 1894 in a note definitely from Saussure’s own hand; and Naville (1901, p. 104) reports an earlier version or outline for semiology essentially similar to what will appear in the *Cours* of 1916. Whether Saussure took over the term “semiology,” consciously or unconsciously, from some other source or, less probably, conceived it neologistically in his own mind, according to Meier-Oeser (1997, p. 315) the term has a history of its own among Protestant Latin authors of the late Latin–early modern period. The decisive feature of the proposal so named in Saussure’s writing lies in the advice that natural signs are to be treated within semiology, if at all, only through an assimilation to the model of signs as conventional or “arbitrary” (unmotivated by anything in the vehicle’s physical structure or subjectivity in their link between sign vehicle and object-signified).

Had some student of Giambattista Vico (13 June 1668–1744 January 23) entered the discussion of Saussure’s day, we might also have had to contend with “sematology” as well as “semiology” in the twentieth-century settlement upon Locke’s “semiotics” as the proper name for the new science (about as helpful as was Tycho Brahe’s contribution to the Copernican debate in Galileo’s day!). Perhaps just as well such a student did not seriously emerge in time, for the complication would not have been particularly helpful, especially when we consider that “sematology” carried much the same linguistic/cultural baggage of (mis)orientation for understanding semiosis that Saussure attached to “semiology.” See Eschbach and Trabant 1983; Trabant 2004.

²² Saussure (1916, p. 16).

which was accepted unreservedly in East and West alike, but his *name* for the new science was adopted initially only in Western Europe and the Americas. The challenge orchestrated by Sebeok over the twentieth century’s last four decades to *both* name *and* model came to be the main “story line” in the founding of semiotics as we understand the “doctrine of signs” today.

2.2.4 *The Actual Formation of a “Community of Inquirers” Focused on Signs*

So far as the work of any single individual inspires the initial coalescence of a *community of inquirers* on the subject of semiotics, it would have to be recognized as the *Cours de linguistique générale* of Ferdinand de Saussure. This work, first published (from materials assembled posthumously by students of Saussure’s live classroom presentations) in 1916, provided the original focal point for what became for the first time in the twentieth century something like a *general interest* across intellectual culture in the subject of signs conceived as “a new science with its own object.”

East and West, the study of signs was originally taken up by a whole range of twentieth-century thinkers who based their work explicitly on Saussure.

In the East, the most seminal of these thinkers was Juri Lotman (1922–1993), father of the “Tartu–Moscow School” of semiotics. Coming to the consideration of signs somewhat later than Saussure and, unlike Saussure, not ignorant of Locke’s 1689/1690 proposal that a science of signs be developed under the moniker *semiotics*, Lotman chose to defer to Locke’s historical priority in this matter of naming. Thus, even though Lotman embraced Saussure’s dyadic *patron général* as an “unrejectable cornerstone” of the science,²³ for the *name* of the new science of signs Lotman adopted from the beginning of his work the name “semiotics” in preference to Saussure’s suggestion of “semiology.”

East and West, then, the *model basic*—the sign model taken as foundational—to the developing discussion was the same: Saussure’s *signifiant/signifié* dyad. But the developing discussion itself was called “semiology” in the Western intellectual culture, “semiotics” in the Eastern.

Notice that Saussure’s model is *stipulated*, or *postulated*, as the basis for the new science. Roughly contemporary with Saussure was a relatively unknown and comparatively neglected figure, the American philosopher-scientist Charles Sanders Peirce (1839–1914), born thus 18 years earlier but died only 1 year earlier than Saussure. Peirce too, but independently, and under some influence of his reading of the later Latins²⁴ (those who wrote in the centuries immediately before Descartes’ advice to his contemporaries to beware of such reading, lest we be unconsciously infected by their errors), came to focus on the idea of semiotics as a possible new “science of signs.” Peirce’s work in this regard would come to be

²³ Lotman (1990), *inter alia*.

²⁴ Beuchot and Deely 1995.

an influence on Roman Jakobson (1896–1982) and Charles Morris (1901–1979), both of the latter to become teachers of Thomas A. Sebeok (1920–2001). Sebeok, as we shall see, like Saussure, was a professional linguist, but at the same time also a self-professed “biologist manqué,”²⁵ who would prove to be the *pivotal figure* in moving semiotics from the arbitrary foundation laid down by Saussure to the analysis-based foundation exemplified by Peirce’s work in rejecting a-priori limits for the new science.

With this much preamble, let us sketch first an overview of semiotic development today, and then an analysis of the theoretical components or elements essential to the doctrine of signs which establish it as the positive essence philosophically of a postmodern intellectual culture. Within this culture, philosophy as cenoscopic science should rediscover its proper role (lost since at least the Enlightenment) in providing the means for understanding how the world of culture is not oppositional to but a species-specifically human extension of the world of nature—from which the whole of life, nonhuman as well as human, emerged and upon which all of life depends.

2.3 Overview of the Semiotic Development

The twentieth century saw the outburst—for want of a better word—in intellectual culture of an interest in signs. By midpoint, this outburst had spread virtually everywhere, and the work of Ferdinand de Saussure was recognized as having been the development’s principal inspiration. Yet even so, as noted above, the development proceeded under two different proper names: both as *semiology* in Western Europe and the USA (as Saussure himself had proposed), and as *semiotics* in Eastern Europe (as Locke had first proposed, unknown to Saussure, and as including “ideas”—the “formal signs” of the earlier Latins—as well as “words” in the model,²⁶ a detail which Lotman did not fasten upon, but which, if he had, might have led Soviet semiotics to the semiotic notion of signifié as including, beyond the Saussurean *signifié*, the whole order of physical reality extrasubjectively apprehended as well as “given”).

2.3.1 *The Initial Foundation Proposed in the Twentieth Century for a New “Science of Signs”*

Saussure was a linguist, and also a typically modern intellectual, in that his awareness of philosophical culture was confined to the modern era. He was accordingly (inevitably) heir to the epistemological paradigm of modernity that Kant did but

²⁵ See the memorial essay “Thomas A. Sebeok, Biologist Manqué,” at <http://carbon.ucdenver.edu/~mryder/itc/idmodels.html>.

²⁶ See Deely (2001a, Chap. 14, esp. 601–603).

systematize, showing (or thinking to show) that what the Latins had called *ens reale* (being in its finite mind-independent aspects) was unknowable, while what the Latins had called *ens rationis* (being as dependent upon mental representations through and through, “finite mind-dependent being”) alone constitutes the sphere of human knowledge properly so-called.

Perfectly in line with this epistemological heritage in philosophy (which Sebeok would soon enough brush aside as capable of providing at best no more than the “midmost target” of semiotics²⁷), Saussure envisioned the new “science of signs” in exclusively cultural terms, and proposed as its foundation or focal developmental point the linguistic sign—but according to a very special conception thereof. When most people hear of the “arbitrariness” of words, they spontaneously think of the connection or application of words to things—food, buildings, trees—in our surroundings. Thus, when Saussure says the sign consists of a *signifiant* or “signifier” and a *signifié* or “signified” related “arbitrarily,” people are inclined to think of words applied to things.

But “words applied to things” is *not at all* what Saussure intended with his dyadic model of sign consisting of *signifiant/signifié*. Saussure was interested exclusively in the relationship of the word to the mental representations, the ideas or images, in the “minds” of speakers, not individually, but as these form the whole of *langue*, the linguistic system, which he conceived as a kind of autonomous whole unto itself laterally linked infinitely by analogies expressing more in the mind of even the individual speaker than that of which the speaker is fully aware. “Things” in the sense of objects signified (significates), as, for example, when in a restaurant ordering a steak to be prepared medium rare, and then being satisfied or unsatisfied with the steak finally presented (as it were) “in the flesh”: that was no part of the *signifié* in Saussure’s sense. Objects signified as things had no formal place in the Saussurean semiology/semiotics system.²⁸

Keep in mind that, as pointed out above, Saussure’s model dominated both Eastern and Western European thinking about signs, but that only in the West, and only partially even there, did his term “semiology” prevail.²⁹ Apart from Poinot’s outline of the requirements for thematically studying the sign which appeared only in Latin the year of John Locke’s birth, but of which the moderns were completely oblivious, the earliest proposal we have within modern philosophy for a science of signs came to publication in the last month of 1689, but bearing the date of 1690, as the concluding chapter of Locke’s famous *Essay Concerning Humane Understanding*. There he proposed for this “science which does not yet

²⁷ Sebeok (1991a, p. 2).

²⁸ Oddly, from a fully semiotic point of view (i.e., from within the major tradition), the crippling weakness of this omission within a *patron général* supposed as foundational is regarded by some as a core strength of semiology, the foundation of the “Autonomie du langage,” as Serra put it in her syllabus for a 2005–2006 “*Introduction à la Linguistique Générale*” (http://www.unil.ch/webdav/site/ling/shared/IntroductionLing/Serra/Intr.a_la_ling.Cours_n_8.pdf): “le signe linguistique a pour fonction de relier un signifiant (image acoustique) à un signifié (concept) et non de relier une expression à un objet du monde.”

²⁹ See Copley 2009.

exist but has its place marked out in advance” the name Σήμιωτική; and, as we noted above, it was this name that Lotman chose for the first three issues of his journal, *Sign Systems Studies*,³⁰ the oldest semiotics journal on our planet, even though he otherwise embraced Saussure’s dyadic model as the stipulative basis for the “new science.”

Σήμιωτική, as Locke bequeathed the term to name this “new science” had no direct Latin counterpart (though Locke himself did say it was a synonym for “doctrine of signs,” the expression used by Poinsoot and common among the Latins); but it transliterates into Latin as *Semiotica*, the name of today’s foremost international journal of semiotics, as it happens; and *semiotica* from Latin to English, as also Locke’s Greek original, yields *semiotics*. Choosing Locke’s name but Saussure’s model for the new development, Lotman identified *langue* as the “primary modeling system,” itself in turn opening the way to and making possible the cultural world or system as a whole, which Lotman termed accordingly the “secondary modeling system.” And Lotman’s work formed the centerpiece for the development of so-called Soviet semiotics, in terminological contrast with, yet foundationally identical to, *semiology* in the West.

Here we need to consider also yet a third thinker seminal to the Saussurean-based development, Algirdas Greimas (9 March 1917–1992 February 27). Like Lotman, Greimas accepted the Saussurean notion of sign, but especially as developed and mediated in the work of Louis Hjelmslev (3 October 1899–1965 May 30), still marking no place of a sign as “natural;” for also like Lotman, Greimas preferred the name “semiotics” to the name “semiology”—though perhaps for quite different reasons.

Anne Hénault, a close assistant to Greimas over many years up to his death, recently suggested to me that the “over the top” usage to which Roland Barthes (12 November 1915–1980 March 25) put the term “semiology” in his 1964 *Éléments de sémiologie* motivated Greimas to put some distance between his own scientific approach to signs and Barthes’ metaphorical exaggerations. Be this as it may, Greimas, notwithstanding his semiological foundations and notion of sign, constantly preferred to work under the title of semiotics. Alexandros Lagopoulos, in a letter dated 12 July 2009, pointed out to me that, in the Greimas and Courtés *Dictionary* of 1982, the same entry “semiology” which waxes “quite dithyrambic about Barthes” also suggests rather clearly that “Greimas opts for the term ‘semiotics’” both “because of the relation of the term ‘semiology’ with a very limited interpretation of Saussure’s definition, which sees the system as excluding the semiotic process and thus the signifying practices,” and because of the relation of that term “with a narrow application of the linguistic model.”

Well, the two accounts of Hénault and Lagopoulos are hardly incompatible. It remains that the question of *what a sign is*, as a distinctive sort of being with a

³⁰ Until someone pointed out that Locke’s spelling is syntactically deficient from the standpoint of Greek grammar, after which *Sign Systems Studies* adopted the spelling actually incorrect (as it turned out) for Locke’s purpose, namely, Σημειωτική: but that is another story (Deely 2004) we have not the space to retell here.

consequently distinctive sort of action, is not merely a question of what *we decide to mean by sign* as a matter of stipulation.³¹ Required rather is a cenoscopic and pre-*scissive* analysis of our *experience* of the working of signs in order to derive from that action a “guess at the riddle” of what a sign *is* in the distinctiveness of its being contrastive alike with objects and things. Such an investigation, not simply an initial stipulation taken as foundation without further ado, has to be at the center of any inquiry with a claim to being scientific—whether cenoscopically, ideoscopically, or (as is usually the case with semiotics) an interactive combination of the two.

2.3.2 *The Challenge to Saussure’s Stipulative Foundation*

There had been, in fact, another twentieth-century thinker, slightly older than Saussure, who agreed with Saussure in principle that a science of signs had a right to existence and its own distinctive thematic place; but he never made Saussure’s mistake of thinking that a model of sign activity taken from human culture should be the “*patron general*.” The thinker in question was an American (the only American so far, as I think, who deserves a mention in the front ranks of philosophers), Charles Sanders Peirce (10 September 1839–19 April 1914), whose foundational work in semiotics traces to 1867. The term most frequently used by Peirce was *semiotic*, not “*semeiotic*” as his epigones have tried to claim.³²

But Peirce and his work did not figure directly in the widespread semiology/semiotics of early to mid-twentieth-century Saussurean inspiration; not at all. Interest in Peirce’s work was confined mainly to small circles of philosophy students in the USA. Many, perhaps most, of these students did not tend to see Peirce’s work primarily in the perspective of a doctrine of signs (Max Fisch [1900–1995], above all, as the twentieth-century *doyen* of Peirce scholarship was to change this general inappreciation for semiotics as providing the principal arc of Peirce’s intellectual development).³³ They saw Peirce’s work rather mainly through the lens of modern

³¹ Exactly here do we confront squarely the superiority of the semiotic approach Peirce shares with Poinset as his main predecessor in uncovering the triadically relational character of semiosis. “What is the essential difference between a sign that is communicated to a mind, and one that is not so communicated? *If the question were simply what we do mean by a sign*, it might soon be resolved. *But that is not the point*. We are in the situation of a zoölogist who wants to know what ought to be the meaning of ‘fish’ in order to make fishes one of the great classes of vertebrates” (Peirce 1904: CP 8.332, italic added; cf. Poinset 1632: TDS I.1, 116/1–13, 117/20–118/18, etc.). Where the semiologist wants to *assert* what a sign is, and proceed from there, the semiotician prefers rather first to *determine* what a sign is, and proceed from there. (It is one of those many and recurrent choices between nominalism and scholastic realism.)

³² See following note.

³³ Less commendable was Fisch’s responsibility for the myth that Peirce’s preferred term for the doctrine of signs was “*semeiotic*” with no final “s” (pronounced “see-my-OH-tick”), a myth that cannot survive a full survey of Peirce’s texts, which shows rather a preference for “*semiotic*” or “*semeiotics*”: see Deely (2009, p. 62–65), “3. Clearing the Mists of a Terminological Mythology”; also available online through the Peirce-L archive: <http://www.cspeirce.com/menu/library/aboutcsp/deely/clearing.pdf>.

philosophy's established categorizations and in terms of the influence on James and Dewey in the "pragmatism" from which, ironically in the case, Peirce eventually came to dissociate himself.³⁴ Quite specifically, Peirce introduced the term "pragmatism" to denote the *incompatibility* of his thought with the denial of mind-independent status to relations in which he (rightly)³⁵ deemed nominalism of whatever variety—as specifically to include the "pragmatism" of James and Dewey—to consist.³⁶ One American who did early see Peirce mainly in semiotic terms and developed his thought accordingly was Charles W. Morris (23 May 1903–1979 January 15). The Peircean influence on Morris was transmitted to one of his students, Thomas Albert Sebeok (9 November 1920–2001 December 21), himself a linguist, and a devoted student also of the Russian linguist Roman Osipovich Jakobson (11 October 1896–1982 July 18),³⁷ who as well prompted Sebeok with an interest in Peirce. And it was Peirce, never Saussure, whom Sebeok came eventually to regard as "our lodestar" (as Sebeok put it in his 1984 Presidential Address to the Semiotic Society of America).³⁸

The challenge to Saussurean epistemological foundations for developing the new "science of signs," thus, did not come from Peirce directly. It came, as a sociological reality and direct intellectual challenge, from the work of Thomas Sebeok.³⁹

³⁴ See "Pragmaticism is not pragmatism," 616–618, and "Pragmaticism and the doctrine of signs," 625–628, in Deely 2001a.

³⁵ See Deely 2001a: passim; and 2008a.

³⁶ Peirce died far too early to include the "pragmatism" of Richard Rorty (4 October 1931–2007 June 8). But it remains as one of history's ironies that the nominalist-compatible version of late modern philosophical thought generally known as "pragmatism," a current which prevails from James through Rorty, provides the Peirce-originated but later replaced name adhered to in presenting even Peirce's distinctive thought among students who should well know better. Cf. Deely 1998a (at <http://www.helsinki.fi/science/commens/papers/redbook.pdf>) and Houser 2006.

³⁷ Jakobson—"one of the first Soviet scholars who became famous abroad," as Voigt (1995, p. 201) noted—was certainly deeply schooled in the Tartu–Moscow line of semiotics, of which Lotman was the chief representative. But Jakobson, unlike Lotman, had not remained confined in that world of "nightmarish Soviet bureaucratic restrictions" for most of his career. Indeed, Sebeok had regularly visited with Jakobson at Princeton during his graduate studies, and considered Jakobson his actual if not official Ph.D. thesis director.

Lotman's early critique of the Saussurean model in terms of the secondary indexicality necessarily entangled with the "arbitrariness" to which Saussure gave sole emphasis (see Deely 2009d), together with his growing interest in Peirce, were major influences on Sebeok over the many years of his close friendship and intellectual association with Lotman. It is perhaps a striking testimony to just how closed was the "world" of Soviet semiotics, lived from within, that Ivanov (2008) is able to present his "Semiotics of the 20th century" to a Moscow congress without a single mention of Sebeok or of the development of the major tradition outside that insular "Soviet" intellectual universe created on Saussure's "arbitrary model." (Ivanov's survey makes a rather startling contrast with, for example, Sebeok 1998.) It is as if an inadvertent testimony that the originally Saussurean "Moscow–Tartu school" is indeed a thing of the past, especially if we compare it to the emergence after Sebeok of what should be called the "Tartu–Bloomington–Copenhagen school" of biosemiotics today, as will be discussed after Sect. 2.5. as an "appendix".

³⁸ Sebeok (1984a, p. 9).

³⁹ And even Poinset's work, which first laid the ground systematically for study of signs as triadically relational in being, would not be with us today as an independent study were it not for the initiatives of Sebeok (1986c).

If we regard Saussurean semiotics/semiology today as, at worst, a last gasp of modern philosophical idealism and, at best, as a part of the larger “doctrine of signs” that found its most fecund (if not most famous) late-nineteenth–early-twentieth-century exponent in the work of Peirce—and if the name *semiotics* has come quite to displace “semiology” in the countries of Western Europe and North America—it is to Sebeok that we must directly look, and initially to Peirce only indirectly, as well as largely through the Sebeokan influence which has, more than any other, made of semiotics a “global phenomenon” of postmodern intellectual culture, wherein Peirce at last comes directly to influence the discussion. Only now, after Sebeok’s successful challenge to the Saussurean semiology/semiotics as a “pars pro toto fallacy,”⁴⁰ does Peirce in the twentieth century’s second half begin to emerge within semiotics (beyond the small circle of philosophy students) as a central figure—at first as if alongside, but eventually quite to eclipse, Saussure. The good reason for the eclipsing is discussed in Sect. 2.3.6. below.

But first let it be well understood that, speaking of semiotics as it came best to be understood in the twenty-first century, the summary statement of W. C. Watt on this point is definitive (2009):⁴¹

Sebeok was the re-founder of the discipline, in 1962, and remained its universally-acknowledged doyen until his unwelcome death, at 81, at the end of 2001.

2.3.3 *Shifting the Semiotic Enterprise to an Adequate Foundation*

Sebeok’s challenge to the culture-bound model of semiotics, as common to Saussure, Lotman, Hjelmslev, Greimas, and (originally) Eco, developed in stages; and it was the frustrated biologist in Sebeok himself, not any direct Peircean influence, that was mainly responsible for launching the revolution. However, species-specifically unique and overriding in importance linguistic communication may be among human animals, Sebeok simply deemed it ridiculous to think that the larger matter of the action of signs can be confined to the sphere of culture, or adequately ana-

⁴⁰ Unfortunately, while Sebeok’s campaign to demonstrate the inadequacy of the semiological paradigm (the purely cultural view of sign activity) did have the effect in the West of a virtual abandonment of the term “semiology” as a name for the semiotic enterprise, his program did not have equal success in persuading adherents of the semiological view of sign action to admit the partial and limited status their analytical approach to the codes of cultural phenomena occupied within the semiotic enterprise as a whole. More than a few Western authors adopted the term “semiotics” as a kind of mask for their work, while continuing to promote a purely semiological enterprise. An outstanding example of this shift from “pars pro toto fallacy” to “pars pro toto masquerade” is Chandler 2002, a book proclaiming to treat of *Semiotics. The basics* while treating in fact of *Semiology. Some basics*, inasmuch as the work considers nothing beyond the cultural side of anthroposemiotics (without even indicating that there is another side: see gloss on this book in References).

⁴¹ Watt 2009.

lyzed on the basis of any specific type of sign which is confined to the one species of animal that we designate “human.”

To make this point, Sebeok began by proposing the term *zoösemiotics* (he himself did not use the dieresis, although he fully agreed with its semantic point) as a name for the broader study of signs as their action—called semiosis, after Peirce—is found throughout the animal kingdom. There are indeed species-specifically distinctive dimensions of sign action and use among human animals, Sebeok emphasized; but this is also true for animals in every species, and we cannot—as would-be students of the sign wherever its influence is to be traced—blind ourselves to a larger action of signs which overlaps anthroposemiosis but extends beyond human culture in the lifeworlds of other animals.

2.3.4 *Remodeling Anthroposemiosis as the Human Use of Signs*

Here we come to a truly remarkable syncretism. Sebeok, born Hungarian but American by adoption, saw in the work of two thinkers of the University of Tartu, Estonia—namely, Jakob von Uexküll (8 September 1864–1944 July 25), Estonian/German, and Juri Lotman, Russian/Estonian—the elements in need of synthesis to provide an adequate foundation for the development of semiotics in its contemporary guise, even apart from Peirce (and I will take up the Peircean influence as Sebeok conveyed it shortly). Von Uexküll was what Sebeok termed a “cryptosemiotician.” This term provides a crucial category for demarcating the epochs or periods in the development of semiotics (see Deely 2006d). It designates a thinker who, contrary to his or her epistemological paradigm inherited as a modern, nonetheless did work that requires to be re-thought in the perspective of semiotics for the importance of the work fully to be appreciated. In his pioneering study of *Umwelt* as the meaningful world of objects developed species-specifically by every animal, von Uexküll had been forced to postulate as correlate with the *Umwelt* the animal *Innenwelt*, and it was here that Sebeok was able to point out the truly “primary modeling system” for anthroposemiosis as a whole.⁴²

Sebeok, already in 1970, had gone out of his way to meet in person with Lotman. In 1977, he had made Lotman an honorary member of the Semiotic Society of America, under Article 4, Sect. 1.d. of the SSA Constitution. But it was only after “a protracted dinner” with Lotman on 3 October 1986 in Bergen, Norway (Lotman’s “first journey ever to the West”)—where what Sebeok describes (1998, p. 23) as “a mutual rapport and sympathy came to suffuse and envelop us as if we had been the oldest of friends”—that Sebeok came away with the full inspiration for the Uexküll–

⁴² Deely 2001c was the first synthesis of Sebeok’s ideas on this point of reinterpreting Jakob von Uexküll’s work in explicitly semiotic perspective, and was delivered in an Imatra paper with Sebeok in attendance. After that session, Sebeok referred inquirers to the essay as “the best development of von Uexküll’s work in explicitly semiotic terms.” A further detailed synthesis emphasizing the *Innenwelt* side of the *Umwelt*/*Innenwelt* juxtaposition is set out in Deely 2007, online at http://www.augustoponzio.com/Critical/12._Deely.pdf.

Lotman (or “Umwelt–Semiosphere”) synthesis that was to be a crucial step toward his vision of semiotics as encompassing the whole of life (“biosemiotics”).⁴³

Returning from that 1986 occasion, Sebeok diplomatically launched his proposal to consider the animal *Innenwelt* as the primary modeling system for all cognitive life forms, with species-specifically human linguistic communication construed as an exaptation therefrom enabling the further development of culture as the “tertiary modeling system.” He began this “diplomatic initiative” in a formal address to the Semiotic Society of America,⁴⁴ a basic text that appeared afterward in many places⁴⁵ in testimony of the importance for semiotic understanding that Sebeok attached to his new synthesis of the modeling perspective—as would further appear in his later work with Danesi.⁴⁶ This Uexküll–Lotman–Sebeok synthesis, it is not too much to say, has become the main foundation stone for the postmodern development of semiotics. But it is not the whole story of Sebeok’s founding (or refounding) contribution, not by any means.

2.3.5 *Furthering the Foundation: An Action of Signs Beyond the Animal Umwelt*

In 1981, Sebeok had already taken the further step of promoting the work of Martin Krampen, whose analysis extended the action of signs beyond even the animal *Umwelt* to include the realm of plants, not only in relation to animals but among the plants themselves as forms of life. This was a move, patently, that put in place the possibility of proposing biosemiotics. It is rather astonishing to realize that Augustine, in his original proposal for a general notion of sign as transcending the ancient nature/culture divide, expressly pointed to this same possibility of semiosis among plants as a “*motus animi*” communicated to neighboring plants!⁴⁷

⁴³ In conjunction with the private dinner mentioned above, Lotman’s public address (1987 publication) to that Norsk Forening for Semiotikk “Symposium on Semiotics in Theory and Practice,” organized by Dinda Gørlée and Sven Storelv, had also played a role in inspiring Sebeok’s idea for this remarkable *Innenwelt/Umwelt+Semiosphere* synthesis, toward which he hoped to directly enlist Lotman himself, as he tells us (Sebeok 1998, p. 31): “Lotman, in his introductory speech, rightly underlined the contemporary emergence of syncretic tendencies...in semiotic investigations. ‘In the humanities’, he said, ‘different disciplines combine into a single science of man, centered around the semiotic study of culture.’ Commute *science* for *the humanities*, *life* for *man*, and *nature* for *culture*—and this great, charismatic thinker and I might have consummated a transcendental disputation. I had hoped to argue my case, and ancillary issues, at our next scheduled encounter, at the 25th Symposium of the Tartu-Moscow School of Semiotics, held in Imatra, Finland, 27–29 July 1987 (Sebeok 1988), but, alas, Lotman could not attend, and I never saw him again.”

⁴⁴ See Sebeok (1987), his first presentation to the Semiotic Society of America subsequent to the Lotman meeting.

⁴⁵ See Sebeok 1988a, 1988b, 1989b, 1991a, 1991b.

⁴⁶ Sebeok and Danesi (2000).

⁴⁷ On this amazing point, see Deely 2006a and 2009c.

Worth noting is the fact that two pioneers of the biosemiotics development have also been named “Thomas A. Sebeok Fellows” of the Semiotic Society of America, one of the most distinguished awards in semiotics today. The Danish semiotician, Jesper Hoffmeyer (b. 21 February 1942), was named in 2000 the Fourth Sebeok Fellow, precisely because of his 1996 pioneering book on the expansion of semiotic understanding to include the action of signs throughout the sphere of life (see now his 2008b claim that biology itself is but “immature biosemiotics”). Then, also for pioneering work in biosemiotics, the Estonian semiotician, Kalevi Kull (b. 12 August 1952), was in 2003 named the Fifth Sebeok Fellow.

When we consider Sebeok’s pioneering role—both in synthesizing the theoretical work developed at Tartu University by the German Estonian Jakob von Uexküll at the beginning of the twentieth century with the work done there by the Russian Estonian Juri Lotman at the end of the twentieth century, and in laying the foundations of biosemiotics generally, together with his promotion of the biosemiotic work of Kull and Hoffmeyer both in issues of the journal *Semiotica* and in his book series—it is hard to avoid speaking today rather of a “Tartu–Bloomington–Copenhagen school” as having succeeded the earlier “Tartu–Moscow school,”⁴⁸ and it is the former “school” which has provided the main theoretical thrust within the biosemiotics development up through the first decade of the twenty-first century.⁴⁹

But let us not get too far ahead of ourselves. What needs to be noted here is that, around this same time that Sebeok promoted the idea of a “phytosemiotics” (with his publication of Krampen 1981), he also became particularly vocal in declaring to all with ears to hear that the so far mainstream contemporary semiology/semiotics of the twentieth century’s first half or so was guilty of incarnating a “pars pro toto” fallacy—the very fallacy recently turned on its head and reintroduced within biosemiotics, as we shall shortly comment in Sect. 2.3.6. *Frontiers in Semiotics*⁵⁰ was the volume that landed Sebeok’s “pars pro toto” point squarely in the mainstream North American semiotic literature of the period.

2.3.6 *The Place of Peirce, After Poinsoot, in Displacing the Pars Pro Toto Fallacy*

Peirce’s view of semiotics in the end proved even broader than Sebeok’s.⁵¹ If we ask ourselves why Sebeok nonetheless came to regard Peirce as “our lodestar” for

⁴⁸ See esp. note 117 below.

⁴⁹ See further in Sect. 2.3.10; then most fully in note 117 in Sect. 2.4.6.5 below.

⁵⁰ Deely et al. 1986.

⁵¹ See Deely 1989a: “Peirce’s Grand Vision” concerning an action of signs throughout the universe. Sebeok, as far as I know, first proposed his coextensivity of sign science and life science in his address entitled “The Sign Science and the Life Science” to the Hungarian Academy of Sciences on 1 October 1990, which I had the privilege to attend. In 1991, at Tom’s invitation, I published my argument against this thesis; at the time of his death a decade after, we were still in discussion of the issues.

the development of semiotics,⁵² we do not have far to seek for the answer. Semiosis, Peirce said, is the name for the action of signs that follows upon their distinctive being; so “semiotics,” Sebeok said along with Peirce, is the name for the knowledge that results from the identification and study of that distinctive way of acting (semiosis), wherever it is to be found. Just as biology is the name for the study of the action of living beings, so semiotics is the name for the study of the action of signs. But here is where Peirce set himself apart from Saussure and all the followers of Saussure, and apart also from all those who would think that we need but transfer a code-based model from culture to biology in order to have an adequate foundation for biosemiotics, the study of semiosis as presupposed for all living things, not just animals.

“If the question” of semiotics “were simply what we do mean by a sign,” Peirce presciently remarked,⁵³ “it might soon be resolved.” But stipulation or decree is not the means by which any science, cenoscopic or ideoscopic, achieves its fundamental goals; not at all. As semioticians, Peirce noted, we are rather “in the situation of a zoologist who wants to know what ought to be the meaning of ‘fish’ in order to make fishes one of the great classes of vertebrates”—how is it that “a sign is something by knowing which we know something more”? That is the question. Our point of departure is not simply the common understanding of what some particular thing is as “a sign,” but the question of what is sign such that it is able to function in the manner that we experience it as functioning—revealing nature, stitching together culture and nature, real and unreal relations, weaving the fabric of experience, and leading us down blind alleys and cul-de-sacs as well as broad avenues of being and nonbeing in the forests of human belief.⁵⁴

We all have a ragged-outlined notion of what we call a sign. We wish to replace that by a well-defined concept, which may exclude some things ordinarily called signs, and will almost certainly include some things not ordinarily so-called.

There we have the distinctiveness of Peirce in the matter of semiotics, as also of Poincaré well before him: the recognition that signs lead us everywhere in nature as well as in culture, including, as Claus Emmeche puts it,⁵⁵ where humans “have never set foot.”

Instead of taking some particular kind of sign as paradigm, and basing everything on that particular notion, as Saussure proposed, Peirce took instead exactly the path that Poincaré had blazed in 1632 to open *his* inquiry into sign: What is it that makes a sign, regardless of the particular type of its vehicle in nature or in culture, actually to be a sign? And both men arrived at the identical answer: the sensible phenomena that we *call* “signs” are such only by reason of occupying the foreground position of representing another than themselves to or for some third. A sign—any sign—is

⁵² Sebeok (1984a, p. 9).

⁵³ Peirce 1904: cp. 8.332.

⁵⁴ Peirce (1906, EP 2.388).

⁵⁵ Emmeche (1994, p. 126).

a sign by virtue of a relation irreducibly triadic attaining that which it signifies directly and an interpretant indirectly as its “proper significate outcome.”

Now relations have never been well understood in modern thought, ever since Ockham postulated that only individuals exist, and that “relations” arise only when there are two or more individuals similar in some feature(s) according to a comparison made by some observer, in some mind. Apart from mind, there are only the individuals interacting. So if signs really consist in relations, then Ockham’s model fits well the notion that only in human culture are there signs. But if relations are indifferently mind-independent, *ens reale*, or mind-dependent, *ens ratio-nis*, depending only upon the surrounding circumstances, as Peirce called to our attention, then we can see at once how signs transcend, as suprasubjective relations, all the divisions of subjective and physical being, not only the nature/culture divide but also the inner/outer, self/other, and psychological/physical divides.

A causal relation, for example, in modern thought, is considered as the interaction of two or more things. But such interaction is not a relation; a relation is what results from and survives as over and above the interaction. A relation is invisible to sense, even though it unites the sensed; and it is indifferent to spatial distance, unlike the interaction which gave rise to it.

All of this, then, enters into our semiotic notion of sign. A sign as provenating a triadic relation is not an object, or at least need not be. On the contrary, the action of signs—semiosis—is what every object presupposes.⁵⁶ Just as any given thing may or may not be an object, but as object directly is normally *not* a Saussurean *signifié* (and *never* by way of a relation other than triadic in any event), so we may say that what Peirce and Peirce call an “object signified” (which turns out simply to be a redundant and clumsy way to say significate) actually has no place directly within a semiological scheme.

Here we reach the heart of the matter: code-based sign analyses, no matter how many “things” they may involve, three or a hundred and three, are reducibly dyadic combinations, whereas, the being that makes a sign a sign remains irreducibly triadic as well as suprasubjective—even when the significate is purely objective⁵⁷ and not a thing at all.

This indirectness involved in the being of signs as triadic relations is precisely what explains the main—the overwhelming—difference between semiotic causality and all other forms of causality: while other forms of causality can take place only between actually existing and present things, semiotic causality can take place even when one (or sometimes two) of the elements united under the triadic relation do not exist now, or perhaps never did or never will exist. No other causality can compete with that; and that singularity of signs as relations (i.e., of signs considered in their proper and distinctive being as signs) is precisely why semiosis in nature acts as a *vis a prospecto*—a real but indirect possibility of the future influencing the relation of past things to the here-and-now arrangements of things in the present—

⁵⁶ The argument for this “semiotic sign” notion (Deely 2004b) has now been presented in dramatic reading form on YouTube: http://www.youtube.com/view_play_list?p=E9651802BCDC14BF.

⁵⁷ Deely 2009d.

even alongside the *vis a tergo* so beloved of reductionist biologists such as Dennett and Dawkins (among many).

So the action of signs depends upon, because indeed it follows upon, the *being* of signs; and that being in every instance involves something of subjectivity (normally in its vehicle), but transcends that subjectivity as well in uniting it with other subjectivities and objectivities in the process and web of semiosis, a web precisely of *relations* at once suprasubjective and triadically unifying the vehicle of the signification directly with its significate and indirectly with an interpretant “which need not be mental.”

Code-based analyses, in Peirce’s terms, reduce to secondness. Signs do not, because signs *are* not only relations but also relations triadic in type. Whence “thirdness is the triadic relation,” Peirce tells us⁵⁸—in this merely echoing Poinso⁵⁹—“considered as constituting the mode of being of a sign.” Hence code-based semiotics, be they applied in the realm of culture or in the realm of biological nature, are a *pars*, never the *totum*, of semiotic analysis; and when mistaken for the whole of the semiotic story such analyses constitute a fallacy—no less in the twenty-first-century’s biosemiotic development than in the mid-twentieth century’s exclusively cultural semiology/semiotics. Coding and code-based outcomes unquestionably have a place in the semioses of living things (there is a place in biosemiotics for biosemiology as a part, just as there is a place in anthroposemiotics for semiology as a part); but that place is not the whole, still less is it the main part of the story of semiotics as the doctrine (the cenoscopic science) of signs.

2.3.7 *Setting the Record Straight on What Semiotics Is All About*

Semiotics is the knowledge developed by studying the action of signs and all that that action involves, including codes. But the action of signs as such springs from the being of signs as triadic relations, and that is not a question at all of “Peirce versus Saussure.” Biosemiotics is no more “Peircean” than biology is “Darwinian.” Personalities shape and influence but do not constitute scientific domains in their objectivity. Biosemiotics is the study of the action of signs in the living world, just as biology is the study of organisms. Indeed, insofar as biology to this point has tended to recognize only *vis a tergo*, while semiotics has been able to identify in addition *vis a prospecto* at work in the interactions of living things (Hoffmeyer’s “semiotic scaffolding,” for example), it may even be the case, as recently argued by Hoffmeyer,⁶⁰ that “biology is immature biosemiotics.” It is ironic that the *pars pro toto* fallacy of twentieth-century cultural semiotics should now by some be reintroduced into the twenty-first century semiotics of the biological world. This amounts to semiology “turned on its head,” somewhat as Marx is said to have done with Hegel’s dialectic.

⁵⁸ Peirce 1904: CP 8.332.

⁵⁹ Poinso 1632: 154/25–29.

⁶⁰ Hoffmeyer 2008b.

As semiology can be regarded *either* as a part of the larger whole of semiotics *or* as a last gasp of the modern idealist doctrine that the mind itself makes whatever the mind comes to know, so code-based biosemiotics proposed as a larger whole than sign-based biosemiotics misunderstands the very foundation of the whole semiotic enterprise, and repeats the *pars pro toto* fallacy of semiology all over again. Code-based biosemiotics can assume a rightful place within and as an essential part of semiosis-based biosemiotics, or it can delude itself as being a larger whole. In either case, it is *biosemiology* that we are confronted with when codes become our paradigm, not biosemiotics in the proper sense of the body of knowledge being developed from study of the action of signs within the whole of the living world.

2.3.8 “Science” or “Doctrine” of Signs?

In that eighteenth-century burgeoning of European thought we call the Enlightenment, thinkers were mainly animated by the idea that the new science, based on experimentation and mathematization of results (science in the modern sense, ideoscopically developed inquiries), would “slow by slow” displace and replace all previous human knowledge.

It took some centuries for thinkers to begin to start to commence to realize that this was by no means possible, for the excellent reason that if the whole of the knowledge we acquire before becoming scientists has no independent validity, then science itself would have no validity. Yet even today, *by no means* have all thinkers awakened from the Enlightenment “dream of reason,”⁶¹ as we witness in those who would set philosophy off to one side as otiose for the future of semiotics. (Recall that Berkeley pointed out to the early moderns that primary qualities could not be known as belonging to things if the secondary qualities upon which the knowledge depended were purely mind-dependent representations; but sometimes points obvious to the point of self-evident—such as the verification theory’s claim that verification constituted meaning, to pick a recent circularity—take human animals centuries to realize. Some still think, to pick another recent example, that Frege’s sense/reference distinction resolves the problem of objectivity!)

Unfortunately, in the past, we had no better name than “common sense” for the “prior knowledge” from which science in the modern sense begins and which it presupposes throughout its investigations; and if ever a notion has been discredited beyond possibility of rehabilitation, it is surely the notion of common sense. We owe again a great deal to Peirce in this regard, drawing on Bentham (of all people!) for showing that “common sense” is not necessarily common, but that neither is science necessarily ideoscopic, but cenoscopic as well—and presuppositively.

⁶¹ Notable in this regard is Gottlieb 2001, whose book is not for nothing described as “a stunning successor” to Bertrand Russell’s *History*.

For semiotics, the most basic of the cenoscopic sciences, has now succeeded in showing that the whole of human knowledge, from its animal beginnings in sense⁶² through its development in imagination, memory, and estimation, and its further extensions in intellection as not reducing to objects perceptually instantiable as such, depends upon the action of signs. So what are we to call this knowledge, which is derived analytically without being dependent upon the experimentation that typifies science in the modern sense? It is, Peirce tells us,⁶³ a science, yes, but one that is *cenoscopic* first of all, and only secondarily an *ideoscopic* science.⁶⁴

Now this—cenoscopy and ideoscopy as subtended by cenoscopy—is a terminology that has only recently begun to be taken up and developed. If we look back over the centuries, however, we find that the word *scientia* in the Latin age, when (practically speaking) only cenoscopic science existed (and at that in a state which confused all too readily “commonsense” conclusions concerning points which required, if not ideoscopy, as least prescissive care in handling), has a Latin synonym, namely, *doctrina*. It is interesting that this synonym for science as cenoscopic is precisely the one that Sebeok, as early as 1976,⁶⁵ expressed a strong preference for over the Saussurean-inspired label “science of signs,” where the word “science” clearly carried its modern ideoscopic sense.

It was not that there were no key figures contemporary with Sebeok, such as Paul Bouissac, seeking to push semiotics wholly in the direction of ideoscopy.⁶⁶

⁶² Sensation is to animals, we may say (I owe the analogy to Kalevi Kull), what root systems are to plants. When Barbieri says (2009, p. 164) that “single cells do not build internal representations of the world and therefore cannot interpret them,” he quite amply displays his lack of understanding of the distinction between interpretant and interpreter. Again when he says that “animals react only to representations of the world,” he manifests his tacit beholdenness to Kantian epistemology in exactly the sense that semiotics begins by surpassing. As early as Poinsett’s dazzling analysis in 1632 of why animal sensation prescissively considered within perception (“*phantasiari*,” actually, for which we have no full equivalent in the modern languages, though “perception” comes the closest) is *already* a web of semiotic relations, even though no mental representation is yet involved, the doctrine of signs had made clear that not only is *representation* not the whole story of mental life, much less of semiotics, but that *other-representation* is prior alike to the self-representation of things in sense-perception and to the self-representation of objects in experience more generally, including the cases of illusion or mistaken identity where the object self-represented is not what it seems.

⁶³ Peirce 1908: CP. 8.343.

⁶⁴ Peirce borrowed this cenoscopic/ideoscopic distinction from Bentham (see Deely 2001a, pp. 618–21). Ashley (2006, pp. 85–87), giving a fine illustration of the applicability of this distinction as Peirce drew it, uses the variant spelling “ideoscopic,” which is therefore not to be confused with Peirce’s usage of the term “ideoscopic,” which concerns the phaneron rather than (as in Ashley) idioscopy proper. I am indebted to Ransdell (1989, note 2). Ashley’s spelling of “ideoscopic, ideoscopy” as synonymous with Peirce’s spelling as “idioscopic, idioscopy” is discussed in Deely 2003a and especially in 2014:253n11.

⁶⁵ In his “preface” to *Contributions to the Doctrine of Signs*; see in particular the entry that he later commissioned for the *Encyclopedic Dictionary of Semiotics*, ed. Sebeok et al. (1st ed.; Berlin: Mouton 1986), Vol. 1 of 3, p. 214.

⁶⁶ Precisely for this reason, as we remarked in note above, Sebeok arranged to have published side by side, as it were, the two competing “manifestos” (as he referred to them privately) on this point concurrently developed in 1984: on the one side by Anderson, Deely, Krampen, Ransdell, Sebeok, and T. von Uexküll, and on the other side by Gardin, Bouissac, and Foote.

Indeed, no one more than Sebeok appreciated the importance of ideoscopic results, including for the development of semiotics. But Sebeok, unlike Bouissac and other Enlightenment epigones after him, recognized quite well the blunder of continuing to embrace the Enlightenment understanding of the enterprise of modern science being the complete displacement of all cenoscopic with ideoscopic knowledge; and he opted accordingly for the sounder alternative of providing for semiotics a cenoscopic base. This story, indeed (without the later terminology of cenoscopy and ideoscopy) is spelled out in Williams' 1985 "review of the reviews" as part of her Preface to the corrected reprinting of Sebeok's key book of 1976.

So the question, "science of signs or doctrine of signs?," admits of no simple-minded solution. For all of science is critically controlled development of human knowledge, whether the framework of that development be primarily ideoscopic and experimental or primarily cenoscopic and directly experiential—or, as in biosemiotics, a fertile admixture of the two. But when we reflect that our intellectual ancestors of Latin times had not one but two terms for "science," and that only one of these—*doctrina*—has retained its predominantly cenoscopic overtones, the fact that this alternate expression, "doctrine of signs," is the one consistently used by preference by every major figure so far in the compelling and still-unfolding semiotic story, from Augustine through Aquinas and Poinot, to Locke, Peirce, and Sebeok in our own day, takes on considerable historical weight. In opting for Poinot's, Locke's, and Peirce's "doctrine of signs" over Saussure's "science of signs," what Sebeok was signaling was nothing less or other than Peirce's point that semiotics is first of all a cenoscopic science, and as such provides the framework for the whole of ideoscopy—not only within biosemiotics, but for the whole of academic and intellectual culture.

2.3.9 Does the Action of Signs Reach Even Beyond the Land of the Living?

Whether there can be any action of signs outside the sphere of living things depends not upon living things but upon the being proper to signs, which is at bottom what determines how signs as such act.⁶⁷ What signs are, remains the central question that we have seen—throughout our brief review of the twentieth century origins of semiotic development through to the twenty-first century present—code-based analysts beginning with Saussure have avoided to face. Hence, they have tended to miss the irreducibility of triadic *relations* which are not "triangles" and cannot be reduced to triangles (or "trinities"), even though the relations in question depend upon and involve the biological agents of interaction in the physical surroundings.

⁶⁷ See Deely (1990, Chap. 3). More extended treatment in 2009j; also in Chap. 12 of (2009e, pp. 233–275).

Whether the *vis a prospecto* of semiosis as an indirect, probabilistic causality was at work in the world of nature as the universe, beginning as lifeless and incapable of supporting life, moved through a series of transformations which made life more and more possible, indeed likely, and eventually actual, is a question that reductionist interaction models of science do not know how to face. Yet it is precisely the handling of this question, by prescissive analysis, not by declaration or vote, that can alone determine how far the action of signs extends.

Peirce, our lodestar, made his most dramatic move not at all in discovering analytically that without triadic relations there are no signs whatsoever; indeed, this had already been fully demonstrated in Poinot’s work centuries before. No. Peirce’s most dramatic move in semiotics was in separating the third term of the sign relation from the order of finite mind, with his distinction between *interpretant* and *interpreter*; and the declaration that an interpretant *need not be mental*. This was the move that sets Peirce apart in the history of philosophy and semiotics as cenoscopic science; and this was the move that led to his famous proposal that “the universe is perfused with signs, if it does not consist exclusively of them.”

The view that the universe consists exclusively of signs is the only view that could properly be labeled *pansemiotics* or *pansemiotism*. But if there is a semiosis beyond life, that specific extension calls for a specific term, not a comprehensive one with an historical implication that “all is semiosis.” The best term proposed so far for a semiosis at work prior to and independent of life but inevitably preparatory to life and supportive of life once it has emerged is *physiosemissis*.

There is no limit to the damage that can result from an ill-considered appropriation of such a term as “pansemiotics,” the historicity of which is loaded with inevitable meanings from the past conveyed analogically quite beyond the ability of an individual user effectively to control the usage by arbitrary stipulation. Arbitrariness does not trump historicity; it merely feeds upon it.⁶⁸ Indeed, there is evidence that this appropriation (or misappropriation) of “pansemiotics” as a term of discussion may already be “going viral.” Marc Champagne informs me.⁶⁹

Todd Oakley writes (in *Cognitive Semiotics* 1, pp. 26–27, 27n2) that “Semiotics is the study of signs produced intentionally by human beings and taken by other human beings as expressions of their producers’ conscious mental states and communicative intentions”,⁷⁰ and states that those who “descend from the anthropological rung” (he cites Sebeok and Hoffmeyer) are—hold on to your armchair—“pansemiotists”!

However lacking in semiotic sophistication Oakley’s assertion may be, it yet serves as a reminder and illustration that terminology is more than arbitrary, and that the “pars pro toto fallacy” is capable of many transformations as it continues to plague discourse about signs.

⁶⁸ See Chap. 6 of *Purely Objective Reality*, “The Sign—Arbitrariness or Historicity” (Deely 2009d, pp. 84–109).

⁶⁹ Email of 3 July 2009.

⁷⁰ Another colleague, in an email of 9 July 2009, 11:38 h, called this “the single most misguided definition of ‘semiotics’ ever put to paper,” deserving to be “cited by semioticians of every stripe as an example of exactly the kind of ignorance that we are up against.”

But that the universe is *perfused* with signs no semiotician today has much—if any—room to doubt. The only question outstanding is in what exactly does this perfusion consist? Is it simply that all things are in principle knowable, but actually to know any of them we depend upon the action of signs? Is it simply that all living things in order to thrive and develop over time depend upon the action of signs? Or is it indeed that the very universe itself, in order to make life possible in the first place, was already partially dependent upon a virtual action of signs where objectivity, too, was only virtual, while things alone were actual and interactive? (This last was an idea already implicit in the Augustinian notion of *signa naturalia*, or physionomic signs, in contrast to the *signa data*, or teleonomic signs, manifestative of life.⁷¹)

It is a fascinating question, one that the indirect formal causality of relations in their suprasubjective being as triadic inevitably poses. Particularly in view of the singularity of semiotic causality, whereby it transpires not only among things that are but between things that are and things that are not—yet or never, depends; but not only upon the action of signs—it is not surprising that Sebeok, despite his own view that life is the boundary line for the actual beginning of semiosis proper, characterized the first book formally to propose an action of signs in nature prior to as well as accompanying life⁷² as “the only successful modern English introduction to semiotics.” How far the action of signs extends depends upon the causality proper to signs; and what that causality is depends upon the being proper to signs as signs—my goodness! The very question from which the whole of semiotics (the *totum*, as it were, not just this or that *pars*) arises in the first place!

2.3.10 *Semiotics in the Twenty-First Century’s Dawn: Sebeok’s Shaping Role*

Before transitioning now to as large a picture as we can draw of the contours of semiotics as the emerging future wherein the proponents of semiotics struggle to find the best way or ways to institutionalize the doctrine of signs within the framework of university life as it has been shaped especially over the last three centuries by the institutionalization rather of *specializations* within the academic community, let us summarize the present section with an explicit delineation of the central shaping

⁷¹ See Deely (2009c, 6.4.2). “To Capture Augustine’s Initiative in a Terminological Proposal,” 55–56, esp. the summary “Table.”

⁷² Deely 1990, *Basics of Semiotics*, Chap. 6, “Physiosemosis and Phytosemosis”. The fifth edition of this work (2009e) contains in Chap. 12 (Sect. 12.4.1) a discussion of “Why Sebeok’s final view of semiosis as co-extensive with life is not broad enough”. On Peirce in this matter, my main comment so far is 1989a; on the prospect of physiosemosis itself, see further 1993b, 1995, 1997, 1998a, 1999, 2001b, 2008a, and the first official SSA Session on the topic, “Adventures in Physiosemosis” with papers by Coletta (197–202) and Newsome (203–207) in Deely and Sbrocchi eds. (2008).

role of Thomas A. Sebeok in giving to the global development of semiotics today its overall shape or “direction.”

Since Saussure’s early twentieth-century kindling of the flame, the study of signs as a “new science” has come a long way, and much has been learned about the question, particularly with respect to what turns out to have been something of an overstatement on Saussure’s part, namely, that as of his time the science in question “does not exist.” We know now not only that Charles Peirce contemporaneously with Saussure was independently engaged in the same question of establishing a “science of signs,” but that he was going about the quest in a much better-informed and broad-based manner—following, in fact, the “properly scientific” procedure recommended by Aristotle throughout his works:⁷³

it is necessary, while formulating the problems of which in our further advance we are to find the solutions, to call into council the views of those of our predecessors who have declared any opinion on this subject, in order that we may profit by whatever is sound in their suggestions and avoid their errors.

Peirce was raised on Kant,⁷⁴ and so had in philosophy a quintessentially “modern,” i.e., an “epistemological,” formation. But he found in the moderns next to nothing of value for penetrating the question of what signs are and how they function or act. So he began to dig further in philosophy’s history, becoming thereby, in effect, the first of the moderns to eschew Descartes’ advice that the Latins be ignored.

This move had the transforming effect to make of Peirce the “last of the moderns and first of the postmoderns,” as I have elsewhere explained at length,⁷⁵ for what Peirce discovered was precisely that our Latin forebears had over many centuries advanced in an understanding of the notion of sign as a distinctive subject matter requiring a scientific treatment of its own. In particular, he found also that the discussion of sign to be fruitful presupposed as its “root notion,” so to say, relation as a suprasubjective reality, an idea originally broached by Plato,⁷⁶ but fully thematized only in Aristotle’s work⁷⁷ as later taken up among the Latins and applied specifically to the question of sign. Peirce familiarized himself with the works of Aquinas, Scotus, Ockham, and the Conimbricenses. He developed a particular fondness for Scotus, as the first really to have advanced the realization that psychological states—“concepts” or “ideas”—function cognitively as sign vehicles. From

⁷³ The particular passage I cite is from the c.330BC *De Anima*, Book I, the opening of Chap. 2, 403b20–23 in the Bekker pagination; but the content of this particular passage is found repeatedly throughout the whole of Aristotle’s works.

⁷⁴ The “udders of Kant,” as he put it: Peirce c.1902: CP 2.113.

⁷⁵ Principally in Deely 2001a: esp. Chap. 15; but also earlier, in Deely 2000b: *The Red Book* <http://www.helsinki.fi/science/commens/papers/redbook.pdf> and elsewhere.

⁷⁶ Esp. in Plato’s c. 399/390 BC middle dialogues “Parmenides,” “Phaedo,” “Theaetetus,” but also in the c. 359–347 BC late dialogue, “Sophist.” Cf. Cavarnos (1975, pp. 18–19), and *passim*.

⁷⁷ For a full discussion of Aristotle on this point, see Deely (1985a, pp. 472–474), esp. fns. 112–114 for the Greek texts. See also Deely (2001a, pp. 73–78), esp. “The category of relation,” 73–74.

the Conimbricenses,⁷⁸ he adopted his famous thesis that “all thought is in signs,” and from the Conimbricenses no doubt, Poinso’s teachers,⁷⁹ he was put on the trail of the decisive discovery, first fully formulated and set out in demonstrative form by Poinso in 1632,⁸⁰ that a triadic relation is required for any sign vehicle fully to signify, and hence constitutes the formal and proper being of signs.

Virtually unknown in the matter of signs in the twentieth century’s first half, when Saussure’s stipulated dyadic model for sign came into near-universal adoption as the basis for semiotic discourse, by the 1960s, Peircean ideas had begun to emerge from the background and sidelines of semiotic discussion to occupy instead center stage, with the Saussurean stipulated dyadic model being increasingly displaced by a Peircean triadic relational model uncovered by a prescissive cenoscopic analysis rather than by stipulation or “decree.”

But exactly how did this move of Peirce from the sidelines to center stage come about? The answer to that question lies in the work of one man above all others, the linguist and “biologist manqué” Thomas A. Sebeok. Not only was Sebeok instrumental in bringing Peirce to the foreground of semiotic discourse, but he was also responsible for the major shifts in terminology that accompanied and surrounded this “Peircean emergence.”

As Peirce found and Sebeok fully realized (not only through Peirce but also by his support for bringing to publication the semiotic of John Poinso), “*doctrina signorum*” is the oldest expression for a general theory of signs. Not only does *doctrina signorum* go back to Augustine and, through him, pass down to Aquinas and finally Poinso in the first florescence of semiotic consciousness (understood as the achievement of an explicit awareness that the being of signs consists, strictly speaking, in a relation that is not only suprasubjective but also triadic in character), but its English version as “doctrine of signs” was, as we saw, expressly pointed out by John Locke as a synonym for his own neologism to name the subject, “semiotics.” In addition, “doctrine of signs” was the expression similarly used by Charles Sanders Peirce in his own investigations of the matter. The upshot of all this is that *doctrine of signs* became the express choice made by Thomas A. Sebeok in his unmasking of Saussure’s proposed basic model or *patron général* for the study of signs as a “*pars pro toto* fallacy.”

Thus, Sebeok’s twofold establishment in the West—first, that semiotics ≠ semiology as a science based upon Saussure’s model of sign as a dyadic and wholly anthropological (or anthropocentrically anthroposemiotic) construction; and, second, that Saussure’s proposal of this equivalence was an instance of the “*pars pro toto*” fallacy—remained largely hidden from Eastern eyes, by virtue of a simple

⁷⁸ Conimbricenses 1607/1606: “De Signis,” Qu. II, Art. 3, Sect. 3; Doyle (2001, p. 86; Latin and 87 English).

⁷⁹ See Beuchot and Deely 1995: “Common Sources for the Semiotic of Charles Peirce and John Poinso.”

⁸⁰ Poinso 1632: *Tractatus de Signis*, Book I, Question 3.

linguistic habit resulting from the adoption in the East of Saussure’s *patron général* as linked from the first with the, in principle, broader term “semiotics.”⁸¹

Sebeok far from rested content with his, so to say, “conquest of the West” for semiotics as a *doctrina* (a “cenoscopic science”), including culture but only as itself a species-specific part of nature as a larger and comprehensive whole. He was determined to extend his conquest to the East as well, and thus to establish semiotics precisely as *global*⁸² within what has proven to be the “postmodern era” of intellectual culture as now dawning. To this end, Sebeok approached Juri Lotman directly, both reporting on his initial discussions to an annual meeting of Semiotic Society of America,⁸³ and expressing full confidence that Lotman would soon enough join him⁸⁴ in establishment of the “Tartu–Bloomington synthesis”⁸⁵—as we might call the merger that Sebeok effected of Jakob von Uexküll’s Umwelttheorie with Lotman’s notion of modeling system—to form the basis for the whole development today of biosemiotics, the study of an action of signs throughout the whole of the living world.

As fate would have it, the joint statement of Sebeok and Lotman, however established in spirit between the two, was never to reach the stage of formal “joint statement,” by reason simply, as we may opine, of Lotman’s death in 1993. Yet it remains that the shift of semiotic studies from an arbitrary and stipulated model of sign to an experiential and cenoscopic understanding that the sign as vehicle produces its effects by way of an arrangement determined by the position occupied by any given idea, affect, object, or thing within a triadic relation (best explicated theoretically first by John Poincaré in the early seventeenth century and then again more fully in the evolutionary context of our understanding of the universe today by Charles Sanders Peirce), was established globally through the work and influence of Thomas A. Sebeok.

Susan Petrilli, in the remarks cited in our opening paragraphs that semiotics is “a phenomenon more ‘of our time’ than it is of any time past,” is thus also correct in her view that Thomas A. Sebeok had come to stand as the twentieth-century “founding father” above all others, the “master of the masters of sign,” by the time the twenty-first century dawned. We stand squarely in the first quarter of the first fully

⁸¹ Thus, in 1964, the very year following Sebeok’s introduction of the notion of zoösemiotics expanding the understanding of signs beyond the artificial boundary of culture as set for the study by Saussure and his epigones, Juri Lotman established the first semiotics journal, using therefor the very name and spelling originally proposed by Locke: Σημειωτική. Ironically, this correct stipulation for the doctrine of signs after only three issues was “corrected” by later editors to read Σημειωτική—concerning which change it can only be said that “they knew not what they did,” as detailed etymological study of the terms in question (Deely 2003b, 2004a) amply reveals. But that is a side matter.

⁸² See my preface, “A Global Enterprise,” to the 1989 corrected reprinting of Sebeok’s 1979 book, *The Sign & Its Masters*.

⁸³ Sebeok 1987.

⁸⁴ Sebeok 1998.

⁸⁵ As we will in this chapter later see (note 117 and Appendix below), the full realization of Sebeok’s aim in this matter would finally be achieved rather by the achievement of a “Tartu–Bloomington–Copenhagen school,” and only some years after his death.

postmodern century, we may say, insofar as semiotics itself appears more and more distinctly as the positive essence of postmodernity as a philosophical—or, as Peirce would have us say, a cenoscopic—development, the first formation of a community of inquirers into the phenomenon of semiosis.

If today the question of physisemiosis stands open before us as a “final frontier” in the question of how far does the action of signs extend, it is to Sebeok that we owe the general recognition of this frontier, even as we owe to Peirce, thanks to his laying down of the distinction between an *interpreter* and an *interpretant* “which need not be mental”—the initial drawing of this “line in the sand.”⁸⁶

2.3.11 *After Sebeok and Beyond: Completing the Compass of Semiotic Understanding*

Reporting on the 9–18 December 2009 “United Nations Climate Change Conference” in Copenhagen, Denmark, Zhao Cheng, Tian Fan, and Wei Dongze comment⁸⁷ that “History has shown once again that the biggest challenge of mankind (in the full sense of “humankind”?) is mankind itself.” Where exactly in history this point has been proven or repeatedly proven the authors do not say. Yet we can say that nowhere in history has this point been demonstrated with the clarity and thoroughness that semiotics is able to achieve, simply by reason of the fact that the human animal emerges within history as the only animal able to become aware of and directly affect the one process on which the whole of the living world most completely depends, to wit, the action of signs or semiosis, in particular as that action leads to a *knowledge* upon which *control* of things as they are and depends over and above (or “beyond”) our animal cathexis of them as to our liking (+), dislike (–), or indifference (∅). Not all things are signs, any more than all objects are things. But all things, even as all objects, are *knowable* only through and on the basis of an action of signs, which is what makes the consequences of human action upon the environment both something that can be known and something that (through understanding in its technological expressions) can therefore be controlled, which is the source of the “global” human responsibility for human action.

Now traditionally, the human responsibility for human action has been termed “ethics,” and has been conceived principally if not exclusively with respect to the actions of human beings within the realm of culture. The realization of our larger responsibility for the *whole* of life on earth—sometimes termed “Gaia,” not in the ancient mythological sense but in the postmodern sense originally specified by Lovelock (1979 and after)—was slow in dawning. When Aristotle distinguished “speculative understanding” of the nature of things from “practical understanding” of the matters that fall under human control, the heavens were deemed eternal and

⁸⁶ See “Peirce’s Grand Vision” (Deely 1989a).

⁸⁷ Cheng et al. 2009: <http://www.fmprc.gov.cn/eng/zxxx/t648096.htm>.

unchangeable, as were also species on earth. Only individuals, and only earthly individuals, underwent birth and death (more exactly: “generation and corruption”), and the sphere of human control reached its maximum extent in the political control of the affairs of state. This view prevailed to the time of Galileo and Poincaré, when it quickly began to dissolve, a dissolution culminating, we might say, in the aftermath of Darwin’s famous work of 1859.

But once it had been discovered that not only earth but the whole of the universe is subject to generation and corruption, that not only individuals but also the very species into which individuals are born “come and go” and develop over time, it could only be a matter of time till it would be understood that human responsibility is not simply a matter of individual, family, and state, but a matter of life on earth as a whole and, perhaps eventually, even beyond our earth. When that realization combines with the discovery that it is semiosis—the way of signs—that leads “everywhere in nature, including (into) those domains where humans have never set foot,”⁸⁸ a whole new era of ethical understanding dawns. Speculative understanding as the ability to investigate and come to know the subjective constitution and intersubjective connections among things as they exist independently of animal cathexis now expands and extends practical understanding as far as science can turn its knowledge into technology, a development clearly presaged in Aquinas’ observation⁸⁹ that “speculative understanding by extension becomes practical.” And just as the basis of all human understanding, speculative and practical alike, is the action of signs, so the discovery that human control over things extends to a responsibility for the whole of life on earth, including but not restricted to the human, leads to the need for a rethinking of *ethics as stringently bound up with and derived from semiosis*—even as is speculative understanding.

This was a development that first began to be realized in semiotics only as Sebeok’s individual life neared its end.⁹⁰ Always leery of ideology, Sebeok’s

⁸⁸ Emmeche (1994, p. 126).

⁸⁹ Aquinas (1266, Q. 79), Art. 11, *sed contra*. This insight Aquinas takes from Aristotle’s c. 330a BC book *On the Soul*. What has changed now—in our day—is only the realization that it is the whole of nature, not just the life of individuals on earth, that is subject to substantial change; whereupon speculative understanding becomes practically limitless in its extension of showing us further how the human animal can introduce into nature fundamental and far-reaching changes, touching the heavens themselves—thus demanding an “ethical understanding” not at all confined merely to the realm of human interactions within “society and culture.”

⁹⁰ Yet, here we may also note a curious parallel to the marginal status of Peirce in the original early-to-mid-twentieth-century formation of inquirers into sign as a “community,” i.e., as a commonly recognized focus within intellectual culture. As Peirce was marginal to semiotics in its initial phase as semiology, so his entry into the mainstream brought to general attention one of the principal correspondents of his later years, the British Victoria Lady Welby. Welby became known generally, however (outside the Netherlands at least), in the Sebeokian universe of transition from minor to major tradition semiotics mainly, almost exclusively, in terms of her 1903–1911 correspondence with Charles Peirce (see Hardwick 1977), and as coiner (in 1896) of the term “significs.”

In Italy, Welby’s emphasis on the “values” or ethical dimension in the action of signs at work among human animals—which is the central meaning of the term “significs”—naturally enough caught the attention of Susan Petrilli, one of Sebeok’s main collaborators on the international scene, and this led Sebeok to take an interest in the matter, reflected even in Chap. 13 of his last

seminal work in establishing the experiential basis of semiotics as extending as far as we can prescissively establish an action of signs to be at work in nature indeed is what makes him “belong to the timeless core of semiotics for every period,” as Tarasti put it.⁹¹ Without speculative knowledge, there is no practical knowledge, only animal cathexis reducing to the self-interest of the organism without regard for “things in themselves.” So it must be said that the work of Sebeok’s generation was to establish the foundations for our understanding of semiotics, while success at that huge task in turn made inevitable an “ethical development” of semiotic understanding—the extension of semiotics to encompass also the sphere of human responsibility bound up with and inextricable from anthroposemiosis. Thus “in the 1990s, semiotic research [came] to a kind of parting of the ways,” where the main line of development “instigates one to examine *the subject who makes choices*”⁹² precisely as bearing responsibility through consciousness of what the “good of the whole” requires over and above yet also as including the self-interest of human animals.

The first book to announce this “tipping point” in the development of semiotic consciousness was Eero Tarasti’s *Existential Semiotics*, published in 2000,

book (see Petrilli and Sebeok 1998). Now, as the twenty-first century completes its first decade, even as Peirce emerged in from the early twentieth-century “semiotic sidelines,” so we seem destined to witness a similar emergence on the part of his correspondent, Victoria Lady Welby. The first major stage of this emergence, no doubt, is that recorded in the classic turn-of-the-century synchronic survey of semiotics by Ponzio and Petrilli 2005, Chap. 2 “About Welby,” 80–137. But this “first glimpse” is as nothing by comparison with the just released volume, Petrilli 2009 *Signifying and Understanding. Reading the Works of Victoria Welby and the Signific Movement*, described by the editor of the series housing the 1048-page work (Cobley 2009b, p. ix) as a work exhibiting a “degree of scholarship coupled with theoretical expertise and a vision for the future” that is “seldom to be met with in academic life.” He concludes (*ibid.*, x): “If you want to learn how important Welby’s writings *will be*, start with this book.” And he is right. (More than that, in my judgment, Cobley is the heir to the editorial genius within the semiotic community of Thomas Sebeok himself.)

It is indeed, as Cobley (*ibid.*) says, Petrilli and not Sebeok who “makes Welby mean much to both the present and the future;” yet this very fact makes equally clear that it will be a long time before the various “moves beyond Sebeok” do not do so while bearing seminal linings from the work of Sebeok’s own lifetime, which more than any other synchronicity of the twentieth century established what will be forever more semiotics “major tradition.” The main point of Welby’s significs (in line with what Sebeok established as the major tradition in semiotics, and similarly to Peirce’s approach to the life of signs) is that it transcends pure descriptivism, to study signs and meaning in their ethical, pragmatic, and even aesthetic dimensions, where semiotic theory intersects axiology. Thus, significs, neatly within the major tradition, moves (or even *begins*) beyond the strictly epistemological and cognitive boundaries of the sign sciences as first defined semio-logically, including specifically those of language and communication studies. Leading beyond the specialism of semantics as proposed in her day, Welby’s proposal of significs arises from the assumption that the relation between sign, meaning, and value is of central importance in every possible sphere of human interest and behavior.

⁹¹ Tarasti (2000, p. vii).

⁹² *Ibid.*, 87, italics added. Worth mentioning here as classic among the early semiotic studies of human subjectivity is Colapietro 1989; see also Sebeok 1977b, 1988d, 1989c.

the penultimate year of Sebeok’s life and, fittingly enough, as a volume in the “Advances in Semiotics” series that Sebeok edited for the Indiana University Press. The development, long in gestation, was inevitable, needing only a clear and proper name. That name effectively arrived with the publication in 2003 of the book, *Semioetica*,⁹³ by Augusto Ponzio and Susan Petrilli. Even as Sebeok established semiotics as a global phenomenon with the intellectual culture of the twentieth century, so Ponzio and Petrilli properly identified the ethical dimension within global semiotics as *semioethics*—to wit, the attempt stringently to derive ethics within our understanding of semiosis as the “practical extension” of semiotic consciousness, an inevitable “sequel” thereto, as I have put it.⁹⁴

It was the first move “beyond Sebeok,” but a move that became possible only because of Sebeok’s central role in shaping the future of the doctrine of signs by exposing the “pars pro toto fallacy” under which twentieth century semiotics began, while shifting through that very exposure the foundation of semiotic inquiry from epistemological stipulation à la Saussure to cenoscopic investigation à la Poinot and Peirce.

⁹³ As is often, almost normally, the case with decisive terms, this term “semioethics” did not spring simply full blown from the mind of Zeus, but is the outcome of a long series of intellectual reflection. Augusto Ponzio summarized the gestation for me thus in an email of 4 January 2010: “Semioethics was born in early 80s in connection with the introduction to Italian translations by Susan Petrilli of works of Sebeok, Morris, Welby, and my introduction and interpretation of Bakhtin’s, Rossi-Landi’s, Giovanni Vailati’s, and Peirce’s works. Our problem was to find a term which indicates study of the relation between signs and values, ancient semeiotica and semiotics. ... We coined terms and expressions such as ‘teleosemiotica’ ‘etosemiotica’, ‘semiotica etica’, in contraposition to ‘semiotica cognitiva’ (see the Italian edition by Bonfantini: Peirce, Charles Sanders, *Semiotics. I fondamenti della semiotica cognitiva*, a cura di Bonfantini et. al.; Torino: Einaudi 1980)....

“The beginning of semioethics is in the introductions by me and Susan Petrilli to Italian editions (in translation by Petrilli) of Sebeok, *Il segno e i suoi maestri* (Bari: Adriatica 1985), and Welby, *Significato, Metafora e interpretazione* (Bari, Adriatica 1985); in the essays we published in *Essays in Significance*, ed. H. Walter Schmitz (Amsterdam: John Benjamins 1990); in Susan’s books of the 80s such as *Significance, semiotica, significazione* (Pref. by Sebeok, Adriatica 1988), and my own of that period, such as *Filosofia del linguaggio* (Adriatica 1985).

“In a private note in the context of the International Colloquium ‘Refractions. Literary Criticism, Philosophy and the Human Sciences in Contemporary Italy of the 1970s and the 1980s’, Department of Comparative Literature of Carlton University, Ottawa, 27–19 settembre 1990 (in the discussion of my communication, *Rossi-Landi tra ‘Ideologie’ e ‘Scienze umane’*), I used the Italian term ‘Semioetica’, as displacement of ‘e’ in Italian word ‘semeiotica’: a play that indicates in Semiotics the ancient vocation of Semeiotics (of Hippocrates and Galen) for improving or bettering life. [See now Petrilli 2007.]

“But in the title of three lessons of Curtin University of Technology in Perth, Australia with Susan I used still ‘teleosemiotica’: ‘Teleosemiotics and global semiotics’ (July–September, 1999, Australia, lecture tour: Adelaide University, Monash University of Melbourne, Sydney University, Curtin University of Perth, Northern Territory University of Darwin).

“The book of 2003 by Susan and me, *Semioetica*, is the landing, or final achievement, of this long crossing of texts, conceptions, and words, as it results in bibliographic references.” See now Petrilli 2014: *Sign Studies and Semioethics*.

⁹⁴ Deely 2010: “Sequel: The Ethical Entailment of Being a Semiotic Animal,” 107–126. See also Deely 2004c, contextualizing the remarks of Petrilli 2004 in the same volume.

2.4 Projecting What We Have Learned About Interdisciplinarity: From 330 BC to c. AD 2075

Becoming conscious of the historicity of human thought with its depth dimension of collective experience, reaching back through generations long dead yet somehow alive now and influencing the unconscious and preconscious development of contemporary minds, especially through language as “the house of being” (in Heidegger’s sense),⁹⁵ is one of the most essential and humbling dimensions of that metasemiosis we have come to call “semiotics.” Therein the semiosis underlying every age of cosmic and biological evolution begins to become conscious of itself in the human being as a semiotic self.

Here, from within the synchronic perspective of now, 2015, I want to situate this ongoing development of the doctrine of signs as it presents itself to us today precisely as the *inherently interdisciplinary and transdisciplinary perspective and process* in and by which the whole of human knowledge is engendered and organized. Only by becoming conscious of this underlying process—semiosis—do we have the possibility to *best* organize, or at least *better* organize, our institutions and instruments of intellectual culture. As regards its completion, I address now a future task; but its beginning is now, both as incorporating insights from authors past and as projecting in outline an outcome which will make of interdisciplinarity as semiotics institutionalized within the postmodern academy what specialization as ideoscopic science has been to the modern academy.

Now, it is high time to resolve the paradox imposed upon us by the modern period of philosophy’s long history. The moderns spent almost three centuries trying to persuade one another that the human mind works in such a way that communication cannot occur. This sounds ridiculous, yet communication, presupposed to all argument and discourse, cannot possibly occur if the human mind works the way that Kant, for example, claimed that it did: namely, by forming mental representations behind and beyond which lay the reality of things (including that of other human selves). The development began, no doubt, with Ockham’s doctrine that relation has no being of its own other than a mind-dependent being.⁹⁶ To take communication seriously, however, is to set out on the road to discovering that not only does relation have a being that can be mind-independent as well as mind-dependent, but that this indifference to the two orders is the *singularity* of relation among all the modes of mind-independent being; for all other varieties of mind-independent being are what they are *only* as mind-independent.

This “singularity” of relation, its positive indifference to circumstance as determining it now to the mind-independent order, now to the mind-dependent order, was used by Aquinas to reconcile the inner life of God as Trinity with the unity of God as *ipsum esse subsistens*. But it was John Poinsett, in 1632, who was the first to latch on to the realization that the singularity of relation is precisely what makes *any*

⁹⁵ See Deely 2000a.

⁹⁶ See the treatment of nominalism in Deely 2008a.

and all communication possible, whether within the Godhead among the Divine Persons, or between God and the world, or within the world between finite creatures of whatever sort. In short, it was Poinset who first explicited the point that *relation's singularity is the ground of the prior possibility of semiosis*, and the essence of semiosis wherever an action of signs succeeds to occur.

Thus, semiosis effects the interweave between thoughts and things whenever and wherever communication occurs, verbal or otherwise. But why did it take so long for the human animals to realize that they are unique above all in being *semiotic animals*,⁹⁷ able to recognize that there are signs and to investigate their action—upon which, it turns out, the whole of animal knowledge, not only that of humans, depends throughout—in contrast to merely using signs, as is true of all animals and even plants and (as it increasingly seems) of the physical environment even in its inorganic aspects of development as first leading up to and afterward sustaining life? The ancients thought of signs only in nature; the Latins took 1100 years to develop their general notion of sign as transcending the nature/culture contrast to the point where it became clear that triadic relations alone complete signs in their proper being; the moderns went adrift entirely, and took almost 300 years to conclude (little else was possible, given the parameters of their so-called epistemology) that there are signs all right, but only in and filtered by culture. Postmodernity began with Peirce's recovery of the line of insight marked out by the premodern Latin development, and so semiotics of the twentieth century, though launched with a modern myopia, soon enough (thanks to the later Latins, Peirce and Sebeok) expanded to its broader horizon of sign activity throughout nature. But the whole picture, right up to the “postmodernity” of semiotics at the dawn of the twenty-first century, is clear testimony to Peirce's observation that⁹⁸

it is extremely difficult to bring our attention to elements of experience which are continually present. For we have nothing in experience with which to contrast them; and without contrast, they cannot excite our attention.... The result is that roundabout devices have to be resorted to, in order to enable us to perceive what stares us in the face with a glare that, once noticed, becomes almost oppressive with its insistency.

For those who have become reflectively aware of the action of signs, semiosis is as clear as day—oppressively or blindingly clear, as Peirce might say; yet for that as-yet-much-larger multitude who have still to realize the dependency of objects upon signs, and the derivative status of things from objects experienced, “much as a pair of blue spectacles will prevent a man from observing the blue of the sky,” so will

⁹⁷ This notion indeed constituting a *postmodern definition of the human being*, one which transcends patriarchy and feminism alike, even as it supersedes the ancient and medieval notion of “rational animal” and (even more) the modern notion of “thinking thing,” thanks to semiotics' bridging (as Baenziger remarks on the jacket of Deely 2010) “the chasm of modern philosophy.” For the most advanced “postmodern analysis” developing this notion to date, see Williams Deely 2015.

⁹⁸ Peirce 1901: CP, I.134.

everyday awareness of objects as “things” prevent one from observing the action of signs underlying all awareness.⁹⁹

Aristotle had a broader conception of psychology than did Saussure. Nonetheless, when he proposed for consideration his famous triangle of mental states, outer things, and utterances communicating between the two,¹⁰⁰ he anticipated Saussure’s notion that it was to psychology that we should have to look to understand the interweaving of these three elements. Not until the 1632 *Treatise* of Poinsoot would we find a full statement to the contrary, a statement to the effect that it is the action of signs, not psychology, that provides the basis for communication by logical or any other means!¹⁰¹

2.4.1 *Tracing from Within the Present a Long Trajectory*

Let us then introduce into our current synchronic view elements from the larger diachrony of our investigation’s subject matter, both elements which long antecede our synchrony (from c. 330 BC), and elements which project beyond the possible duration of our present synchrony (to AD 2075 or so). By that time, we may reasonably expect that the synchronic conflicts between modern specializations and the need for a cenoscopic framework allowing an overview of ideoscopy within intellectual

⁹⁹ Thus, semiotics provides the answer to Heidegger’s question (1927, p. 437), “Why does Being get ‘conceived’ ‘proximally’ in terms of the present-at-hand *and not* in terms of the ready-to-hand, which indeed lies *closer* to us?”—“closer” indeed generically as animals, but not at all closer species-specifically to *semiotic* animals, at least not once actively engaged analytically in metasemiosis.

¹⁰⁰ Aristotle c. 330 BC: *Περὶ Ἑρμηνείας* (Latin: *Perihermenias*) 16a3–9 (Greek text from Bekker 1831): “Ἔστι μὲν οὖν τὰ ἐν τῇ φωνῇ τῶν ἐν τῇ ψυχῇ παθημάτων σύμβολα, καὶ τῇ γραφόμενα τῶν ἐν τῇ φωνῇ. καὶ ὅσπερ οὐδὲ γράμματα πάσι τὰ αὐτά, οὐδὲ φωναὶ αἱ αὐταί· ὧν μέντοι ταῦτα σημεῖα πρῶτων, ταῦτα πᾶσι παθήματα τῆς ψυχῆς, καὶ ὧν ταῦτα ὁμοιώματα πράγματα ἦδη ταῦτά. περὶ μὲν οὖν τούτων εἴρηται ἐν τοῖς περὶ ψυχῆς, — ἄλλης γὰρ πραγματείας.”

Aristotle *Perihermenias*, 16a3–9, Latin trans. from Boethius c. AD 514: “Sunt ergo ea quae sunt in voce earum quae sunt in anima passionum notae, et ea quae scribuntur eorum quae sunt in voce. Et quemadmodum nec litterae omnibus eadem, sic nec eadem voces; quorum autem hae primorum notae, eadem omnibus passiones animae sunt, et quorum hae similitudines, res etiam eadem. De his quidem dictum est in his quae sunt dicta de anima—alterius est enim negotii.”

Aristotle *On Interpretation*, 16a3–9, English trans. from Edghill 1926: “Spoken words are the symbols of mental experience and written words are the symbols of spoken words. Just as all men have not the same writing, so all men have not the same speech sounds, but the mental experiences, which these directly symbolize, are the same for all, as also are those things of which our experiences are the images. This matter has, however, been discussed in my treatise about the soul, for it belongs to an investigation distinct from that which lies before us.”

¹⁰¹ Poinsoot 1632: “Remarks on Aristotle’s *Perihermenias*,” 38/1–2, and 11–19: “Libri Perihermenias sic vocantur quasi dicas ‘de Interpretatione’ . . . Sed tamen, quia haec omnia tractantur in his libris per modum interpretationis et significationis, commune siquidem Logicae instrumentum est signum, quo omnia eius instrumenta constant, idcirco visum est in praesenti pro doctrina horum librorum ea tradere, quae ad explicandam naturam et divisiones signorum in Summulis insinuata, huc vero reservata sunt.”

culture should largely have been resolved—or so we are entitled to hope. Here I can do no more than to lay out some preliminary reflections on this problem of how to “fit semiotics in” to the institutional university structure. After all, it took a couple of centuries for the traditional universities to figure out how to incorporate modern science—i.e., ideoscopic science, the kind of knowledge that could never be arrived at independently of experimentation with instruments extending the senses and mathematization of the results—into their academic structures. Up to the time of Galileo and even a while after, the universities had relied exclusively (but without recognizing its proper nature and limits) on cenoscopy, i.e., the kind of science that semiotics consists in. Within that earlier cenoscopy uncomprehending of cenoscopy’s proper limits that was called “scholasticism,” the first establishment of the standpoint required for semiotic (Poinot 1632) came too late to head off the disastrous toppling of ideoscopy from its cenoscopic foundations, a toppling wrought by modern philosophy but precipitated by abuses of cenoscopy in the hands of religious and civil authorities.¹⁰² If we succeed to reinstitutionalize cenoscopy, now *along with* the spectacular ideoscopic achievements of modernity, then we will have performed a great service indeed to the emerging global intellectual culture of the human species. But the success of this enterprise certainly exceeds my synchronic (though not diachronic) participation, and can be expressed in the present pages only after the manner of something like a prognostication. Borrowing Sebeok’s words from a similar occasion,¹⁰³ and changing only the referent—the “*supposition*,” as logicians might want to put it—of the opening demonstrative pronoun used adjectivally, I now say that “This abductive assignment becomes, henceforth, the privilege of future generations to pursue, insofar as young people can be induced to heed the advice of their elected medicine men.”

This fourth main section of the present chapter intends no more than to provide an “indexical pointer,” as it were, an extended index finger indicating a future outcome, to the problem of institutionalizing semiotics within the academic structure of the postmodern university world—or, as we might better put it, the problem of adapting the modern university specializations structure to an intellectual culture no longer modern but postmodern, and hence with no longer only an uncognized semiosis underlying but now also an overlying conscious semiotics at its identifying core.

Let us begin with a backward glance to c. 330 BC, then proceed by way of precursive analysis to trace forward to AD 2075 or so the trajectory that now appears now to have been launched by Aristotle’s indication of the fact that an understanding of his words/things/thoughts triangle presupposes “some other science.” In the process, we will discover that that “other science,” suggested by Aristotle himself as what would develop in the Latin world and continue in the modern world as “psychology,” and also “logic” (that one of the three original “liberal arts” concerned

¹⁰² This is the tale I have tried to recount in *The crossroad of signs and ideas* volume with *Descartes & Poinot* as its main title (Deely 2008a), a volume which, fortuitously, was published in the very week that 33rd Annual Meeting of the Semiotic Society of America opened in October of 2008 under the theme of “Specialization, Semiosis, and Semiotics.” See also Deely 2001a: Ch. 11.

¹⁰³ Sebeok (1984c, p. 21), in finem.

with discourse within the soul as the basis for writing and rhetoric alike), turns out to be—that “other science”—neither logic nor psychology, but semiotics.

2.4.2 *The Triangle of Words, Thoughts, and Things*

Aristotle’s triangle, like all triangles, has three points or “termini” and three sides. The question is, what exactly are the three termini and, in terms of relations, what is represented by the three sides? In English, the three termini may quite accurately be said to be words, things, and “passions of the soul,” which are actually not *thoughts* properly speaking but rather *that upon which the formation of thoughts as well as feelings is based*, or those “specifications” resulting from the physical interaction of the animal’s body with the surrounding environment of physical things out of which thoughts grow.

2.4.3 *Premodern Background to Understanding the Triangle*

Later, the Latin commentators on Aristotle will develop these points in a terminology which, effectively, was lost in the transition from Latin Age to modern philosophy.¹⁰⁴ In terms of that (lost) terminology, the *passiones animae* or “passions of the soul” are the forms of specification (*species impressae*) for developing thought which have their origin in the action of sensible things upon the senses, as these stimuli are *further* developed or shaped by the active interpretive response of the internal senses of memory, imagination, and estimation that together or “collectively” constitute, on the side of animal Innenwelt, the foundations or basis (*species expressae*, or “phantasms”) for the relations to the environment constituting the animal objective world, the Umwelt.

But these phantasms presenting to the animal its surroundings as interpreted are themselves transformed by the activity of the intellect itself (*intellectus agens*) from being *species expressae* as perceptual thoughts *into* being for intellection rather *species impressae*, specificative *passions*—specifying *impressions* actively formed by but passively *received* from the activity of internal sense, serving now not to interpret the outer surroundings, but rather *internally to activate the intellectus possibilis* as capable in principle of coming to know “all things,” the whole of being.

Thus, what for the brute animal are already thoughts structuring objects perceived, become now for the human animal transformed further into a new level of specificative *passions*. These are specifying impressions actively formed by the

¹⁰⁴ Maritain (1959, p. 115 text and notes) terms the *species*, both *impressae* and *expressae*, as being “terms without counterpart in modern philosophy.” The reader interested in the full details of the question—actually quite important for semiotics—is referred to the *Intentionality and Semiotics* treatment in Deely 2007b: esp. Chap. 4, “Specifying forms, impressed and expressed—terms without equivalence in modern philosophy,” pp. 23–32.

activity of internal sense (just as the *species impressae* of external sense are actively formed by the activity of surrounding bodies upon the animal body) but now passively *received* rather from the activity of the intellect transforming the phantasms by adding to them the relation of “self-identity” into a new level of specificative *passions* (i.e., specifying *impressions* passively *received* from the activity of internal sense now “made intelligible”).

In this way the phantasms, terminative for the activity of sense, are rendered mediative for the activity of understanding or “intellect.” As such, i.e., newly minted as *species impressae intellectus* from the *species expressae phantasiandi*, these “passions of the soul” are not yet impressions from things received via sense *actually* understood, but now at last impressions *able to be thought about intellectually*, and not only as sense perceived. Only now, in response to *these* “*passiones animae*” (as “able to be intellectually considered”), does the human understanding in its proper and distinctive awareness come to life, responding to the phantasms (the *phantasma transformata*, as it were) in and by the formation of *its own* interpretive specifications of human awareness (*species expressae intellectae*, as opposed to the phantasms transformed into *species impressae intelligibiles*). This final product of intellectual activity, a product not of the *intellectus agens* transforming the phantasms into *species intelligibiles*, but of the *intellectus possibilis* itself (activated by phantasms-as-sense-impressions-now-intelligible) forming on its own *species intellectae* as foundations of relations¹⁰⁵ to objects as they may exist “in themselves” (whether mind-dependently, mind-independently, or in any admixture of the two), constitutes what are commonly termed today “thoughts” or “ideas”—i.e., cognitive in contrast to cathectic psychological states—species-specific to the semiotic animal.

But this modern way of speaking ought not be allowed to blind us to that fact that these species-specifically human thoughts are possible only within and on the basis of the generically animal thoughts which are not species-specific to human animals but are rather generically common to all animals as living in a world of cognized objects irreducible to physical things because they are cathectically organized not in the same way that the things are organized but precisely and rather according to the interests and sophistication of the animal perceiving.¹⁰⁶

¹⁰⁵ i.e., just as the phantasms as *species expressae* of memory, imagination, and estimation are terminative productively but not terminative cognitively, just so the *species expressae* of understanding are terminative productively but as produced serve only and further to provenate relations having objects as their termini. Thus, the characteristic of all thought (*species expressae*), generically animal and specifically human equally, as Poinot best and most clearly put it (1632: Book II, Question 2), is to present what is other than itself, and so to exist and function in the capacity of sign vehicles; but whereas generically animal thought terminates always and simply at objects as related to the animal, specifically human thought adds to this awareness as self-interested (transforming it without displacing it) the further dimension of awareness of these same objects as involving things in themselves.

¹⁰⁶ The earliest formulation I have found of this insight that will become central to the doctrine of signs in Poinot’s work, to the Umwelttheorie of Jakob von Uexküll, and to contemporary semiotics through and after the work of Sebeok, is in Cajetan 1507: *in I.I.*, art. 3: “*aliae enim sunt divisiones entis in esse rei, aliae in genere scibilis*” (cited by Poinot 1632 at 149/44–46).

2.4.4 *Modern Attempts to Semanticize the Triangle*

We can see even from this brief summary that it is already an “over the top” interpretation of Aristotle’s triangle to render the “passions of the soul” without qualification as “thought,”¹⁰⁷ and to treat the triangle as fundamentally “semantic,” apparently just because it involves “words” as one of its three terms—as we find first in Gomperz (1908), perhaps most famously in Ogden and Richards (1923),¹⁰⁸ and later in the unsound attempts (such as Kretzmann 1967, 1974; esp. O’Callaghan 2003; inter alia) to make of this characterization a “Thomistic” interpretation of Aristotle.¹⁰⁹

Yet it must also be said, in favor of the influential semantic use made of the triangle in that seminal work on meaning by Ogden and Richards, that there are no “words” *until* ideas or concepts have been formed as *incorporative* of the passions of the soul. So we should keep well in mind, while considering this seminal text of Aristotle c. 330 BC *On Interpretation* 16a3–8, its author’s own caveat (italic added): “This matter has, however, been discussed in my treatise about the soul, for *it belongs to an investigation distinct* from that which lies before us.” Hence, the relevance of the above summary of the Latin commentary tradition on the works of Aristotle, from the time of Albert the Great, the principal teacher of St. Thomas Aquinas and the first of the Latins to comment on the full *corpus* of Aristotle’s writings, down to the time of Poinset, who first established the irreducible triadicity of the relational being proper to signs.

2.4.5 *Aristotle’s Caveat on the Need to Understand the Triangle Through “An Investigation Distinct” from Inquiries into Logic and Language*

Thus, as we look back on the statement of Aristotle’s triangle at the opening of his *Perihermenias* or “On Interpretation” text, we have to note carefully two things: not

¹⁰⁷ An attempt to trace the complex origin of the “passions” in the interactions of the human body with surrounding bodies (perhaps in some contradiction with his more general *res cogitans/res extensae* metaphysics) without, however, particular regard to either Aristotle or his triangle, was made in the earliest days of modern philosophy by none other than Descartes himself (1649), in the last of his works to be published in his lifetime.

Interestingly, Descartes’ treatment of the “passions” concerns what we would today call cathectic psychological states no less than the cognitive ones. It is a kind of sketch of psychology with an eye to moral philosophy, more relevant to the understanding today of Umwelt theory (in the matter of how the animal organizes its cognized surroundings in terms of objects cathected as +/0/–) than it is to the question of the triangle now before us.

¹⁰⁸ This book, *The Meaning of Meaning*, without doubt made the triangular model much as Aristotle had long ago suggested a central focus in the twentieth-century semiotics development. See, e.g., “Working with Interpreters of the Meaning of Meaning. International Trends among Twentieth-Century Theorists,” Petrilli 2010: Essay #2, pp. 49–88.

¹⁰⁹ See details in Deely 2008b.

only that “In these books Aristotle treats principally of the statement and proposition,” but also that he opens this treatment by mentioning a triadic structure which, as he himself puts it, “belongs to an investigation distinct” from the matter of spoken and written forms of linguistic communication, a distinct investigation which is not only prior but indeed foundational to the inquiry into logical discourse.

Poinsot, in his own remarks on the text introduced with Aristotle’s statement of the triangle, points out that all the matters treated properly and directly in Aristotle’s *Books on interpretation* “are treated in those books by way of interpretation and signification, *since indeed the universal instrument of logic is the sign.*”

Then he turns to Aristotle’s *caveat*, the matter of the distinct and prior investigation needed to understand the matter of the triangle as it will form part of the discussion, even if not fundamentally, in the “perihermenias books”—the books on the logical component or dimension of interpretation as linguistically expressible.

But here, we shall shortly see, Poinsot goes beyond Aristotle in a rather striking fashion. For Aristotle, the “passions of the soul” belonged primarily and broadly to the treatment of psychology¹¹⁰—the *De anima*, which dates from the same period as the *De interpretatione*, indeed, but which Aristotle refers to as “already having been written” when he begins the *De interpretatione*.

2.4.6 *Causality and the Relationships Within and Constitutive of the Triangle*

Very important to note from the start, and keep in mind throughout, is the difference between *causal interactions* (Aristotle’s categories of “action” and “passion”) and the *relations* which are generated by and result from those interactions (Aristotle’s notion of relation as a *distinct* category of mind-independent being in the very sense that Ockham and modern philosophy after Ockham will relegate exclusively to the status of mind-dependent being). The two are commonly—almost always, historically (which helps to explain the long delay in general establishment of a semiotic consciousness in the long history of cenoscopic science we call “philosophy”)—conflated and confused. A causal interaction is commonly called a “causal relation,” but this is no more true than it would be to call an offspring a “sexual interaction.” Just as a child comes into being through a sexual interaction, but is for sure something distinct from, *over and above*, and subsequently quite independent of that original interaction long since ceased, so it is with relations. Efficient causal interaction (*agere et pati*) requires physical proximity, but not so relations consequent upon physical interaction. “For far or near, a son is in the same way the son of his father;”¹¹¹ whence “distance neither conduces to nor obstructs the resultance of a pure relation, because these relations do not depend upon a local situation.”

¹¹⁰ Recall Saussure’s location of “semiology” as falling under “general psychology.”

¹¹¹ Poinsot 1632: *Tractatus de Signis*, Second Preamble “On Relation,” Art. 1, “Whether there exist relations which belong to the order of mind-independent being,” 85/11–12 and 8–11.

2.4.6.1 Iconic dimension

Yet action follows upon being: as a thing is, so does it act (“*agere sequitur esse*”); and while the thing acted upon bears the traces of the action upon it, in turn, according to *its* own being (“*quidquid recipitur, secundum modum recipientis recipitur*”), the resulting relation thus necessarily bears the stamp of both action and passion—subject acting and subject acted upon. Thus, speaking of the *relations* between “things” of the physical environment and “passions” of the soul (that is to say, initially, the *psychological effects* within the animal produced by the interactions within the sphere of awareness of its own body with the surrounding bodies making up its immediate environment), it is not indexicality that Aristotle foregrounds but rather the iconicity that follows upon interaction as indexical, the *formal resemblance* that survives the interaction itself and provides the basis afterward for tracing even the indexicality—for example, in a forensics investigation.

2.4.6.2 Symbolic dimension

It is the same on the other sides of the triangle: Aristotle is focusing on the relations as suprasubjective modes,¹¹² rather than on the causal interactions that relations may involve or presuppose. Psychological states as they issue in vocal sounds, for example, are but creating outward effects *symptomatic* of the inward state. Words as physical sounds or marks (or movements), however symptomatic of inner states, are not thus *words*. As *words* physical sounds, marks, and movements have a *content*, informational or poetic, cognitive or cathectic, more or less pure or mixed, as the case may be; but that *content* depends upon an exaptation, a successful social stipulation and hence (eventually) a *custom*, thanks to which the words refer to the passions and to the things designated as *signified* alike *symbolically* rather than iconically.

2.4.6.3 Indexical dimension as underlying

Thus, within Aristotle’s triangle, the closest we come to indexicality, directly considered is the $\sigma\mu\mu\epsilon\acute{\iota}\omicron\nu$ as a symptom¹¹³ relation between “words”—not as such, but as physical occurrences intentionally or unintentionally emitted in the behavior of the human being as an animal organism—and the psychological states or

¹¹² Actually, Aristotle is thinking exclusively in terms of *intersubjectivity*, as the being relation has in the order of mind-independent to $\acute{\omicron}\nu$; only with Peirce and the formal advent of semiotics will the focus shift to *suprasubjectivity* as the being singular to relation as transcending all subjective contrasts within the order of mind-independent being, including the contrast of *ens reale* as including both subjectivity and intersubjectivity to *ens rationis* and purely objective being as ontologically relative throughout, and hence suprasubjective in sign and signified *whether or not* intersubjective in any given case.

¹¹³ On the general sense of $\sigma\mu\mu\epsilon\acute{\iota}\omicron\nu$ as sign specifically narrowed to $\sigma\mu\mu\epsilon\acute{\iota}\omicron\nu$ as symptom, see Baer (1986).

“passions;” whereas, the *symbola* relations between words and passions (as also the *symbola* relations between words and things) depend rather upon the superposition or “imposition” of an intention upon those symptoms, whereby, they are transformed “conventionally” to become not merely physical occurrences but also linguistic occurrences at the same time. While as symbols the linguistic occurrences are usually and to a greater or less extent intentional, precisely as *symptoms* they *need not* be intentional. (I may groan in pain merely because of the pain suffered; or I may groan in pain, mainly to gain sympathy from those around me—or, of course, both!) So, while passions presuppose indexical interactions with things, these interactions survive in the present mainly as iconic relations. While words presuppose passions, they do not mainly iconically but rather symbolically represent the content of the passions. Hence, only indirectly do words manifest the relation of passions to things, even when they themselves are used directly to speak about things.¹¹⁴

2.4.6.4 Entanglement in language of culture with nature

Yet from this very symptomatic relation of passions to words, an adaptive relationship alongside and underlying the exaptive symbolic relation of words to passions, secondary features of iconism between passions and words are inevitable intermixtures (entanglements) within the conventional or “arbitrary” relations between words and passions—exactly as Jakobson lately (1965) forced the Saussureans reluctantly to realize. As we will shortly see, Jakobson’s point penetrates deeper than even Lotman realized in exposing the inadequacy of the *signifiant/signifié* model as an answer to the guide-question of semiotics: what is the being proper to and distinctive of sign? For dyads do not make a triad, however much thirdness depends upon secondness in multiple ways. What Lotman (1990, p. 6) considered to be the “unrejectable cornerstones” of modern semiotics prove not rather to be so much *rejectable* as *definitively regional* abstractions necessary to create the analytical fiction of *langue* as a purely synchronic “essence” not only “external to the individual” but further something the individual “by himself is powerless either to create or to modify.”

2.4.6.5 Primary modeling is not “langue”

Ah yes, but insofar as this *langue* “exists only in virtue of a kind of contract agreed between the members of a community,”¹¹⁵ while the individual “by himself” is powerless to create or to modify it, that same individual as a semiotic animal, even though happening to be a member of that “contractually bound community,” can indeed and often enough *does* succeed to modify the *langue* from without. This

¹¹⁴ Poincot 1632: *Tractatus de Signis*, Appendix A, 345/9–10 and 349/37–351/8: “Voces unica significatione significant res et conceptus... principalius [autem] significant... res, nisi forte ipsa res significata sit conceptus vel eius intentio.

¹¹⁵ Lotman (1990, p. 5).

possibility of success obtains precisely because linguistic communication *is not* the primary but only the *secondary* modeling system within anthroposemiosis, exactly as Sebeok was the first to point out¹¹⁶ in his ingenious synthesizing of the work of von Uexküll and Lotman¹¹⁷ into a single vision of anthroposemiosis as not only a species-specific process but also always and essentially a generically animal process.¹¹⁸ *Within* anthroposemiosis overlapping zoösemiosis, then, “linguistic communication” arises as *an exaptation* rather than an adaptation. Saussurean *langue*, we may say, is but the abstract model of that biologically underdeveloped feature of the human *Innenwelt* which, as exapted, created in the first place linguistic communication as the species-specifically human system indispensable for entry, beyond “society,” into the realm of culture as constituting finally the tertiary modeling system.

2.4.6.6 Diachrony preceding and succeeding “*langue*’s” synchrony

Synchrony in a near-geometric sense, may be the essence of Saussurean *langue* as a secondary modeling system, but diachrony is the essence of language in the root sense from which *langue* is exapted. Precisely from the biologically undetermined human *Innenwelt* still generically animal come those changes “only in one or other of its elements” (i.e., the elements of *langue*) which are initially “outside the system” of *langue*, indeed, while it remains that “the systems (within *langue*) are affected by them.” Here already is a decisive proof that synchrony, the essence of *langue* as a secondary modeling system, can *only as an abstraction* (comparable to the abstraction by which Euclidean geometry was achieved) even partially escape diachrony as a larger context within which evolution—cosmic, biological, linguistic—is inevi-

¹¹⁶ See Sebeok 1984b, 1987, 1988a & b, 1991b & c, 1998.

¹¹⁷ See the *Appendix* to the present work, “Sebeok’s Synthesis: The Tartu–Bloomington–Copenhagen School,” p. 69 below.

¹¹⁸ The point of Sebeok’s synthesis is that any exclusive focus on *language*, whether in the root sense of the species-specifically human adaptation within the *Innenwelt* as generically animal, or in the sense of linguistic communication as an exaptation of that biologically underdetermined adaptive feature, distorts the place in nature and biosphere as a whole of the human *as* animal. Such a focus—precisely the focus of “semiology” as originally conceived to be *the whole* of the “new science of signs”—distortively glosses over *generically zoösemiosis* both as regards the dependency of language in its root sense upon those larger processes and as regards the overlap thereof within anthroposemiosis. For it is the zoösemioses with which anthroposemiosis is intertwined and interdependent even for the exercise of its species-specific communication as linguistic that constitutes that “primary modeling process” as a whole on the basis of which the biologically underdetermined feature of “language in the root sense” becomes accessible for exaptation in the first place. (See most recently Copley 2014.) At the *Innenwelt* level, “language” is anything but an independent feature: language in this root and at that level is precisely that—a *feature* within the larger whole of an *animal* modeling system, just as is *any* species-specific *Innenwelt* adaptation of the animal modeling system as giving rise to communicative channels distinctive of this or that group of animal individuals. Details of Sebeok’s argument are laid out in Deely 2007.

table, and from which *signifié* in the semiotic sense (*significatum*), in sharp contrast to the semiological sense of *signifié* (mental representation), cannot be omitted.¹¹⁹

2.4.7 Brief Excursus on “Deconstruction”

Consider, in Aristotle’s triangle, as we are about to see, on side #1 (the base),¹²⁰ words and things are directly connected only unilaterally, in a one-sided and 100% symbolic relation directly *from* the words *to* the things. There is no mutual relation, no *direct* relation back from the things to the words. To speak of, there is no iconicity, no indexicality. There is the direct relation through stipulation (and after custom) from words to things whereby the words are symbols, that is all; but there is no direct relation from the things back to the words. Here alone, we will see, could one have a chance to speak of something like “arbitrariness” with little or no entanglement of iconicity, “pure” arbitrariness. Saussure does not look to this relation in his linguistic sign model and he makes no direct place for it in the model, no place at all.

On side #2 of the triangle (things to thoughts),¹²¹ there is a direct, two-way relation between thoughts (as “passions of the soul”) and things, indeed; but this iconic, reciprocal relation has *no direct connection with words*.

On side #3 of the triangle¹²² (thoughts to words, words to thoughts), there is no single two-way relation between thoughts and words, *nor is there a single one-way relation between thoughts and words*. On this side there are *two* one-way relations, one of thoughts to *words as symptoms* of mental representations (passions to vocal, gestured, or written expressions), and a second of words to *thoughts as symbolized* (linguistic expressions to passions).

So, if we consider the relations in which *words alone* are *directly related* to anything other than themselves, we see that there are three such relations: (1) a relation of words to things, which is a symbolic relation, “arbitrary” in the sense of wanting for any internal iconicity or indexicality; (2) a relation of words to thoughts inasmuch as the words symbolize the thoughts, a relation which is also arbitrary as wanting internal iconicity or indexicality directly yet not without *entanglement* therein; and (3) a relation of words to thoughts as *symptoms* (σημεία), thereof, which relation involves *both* indexicality *and* iconicity.

In Saussure’s arbitrary *signifiant/signifié* model, not only is side #3 of the triangle *the only side* taken into consideration, but within that side *only the second* of

¹¹⁹ Broden (2009, pp. 20–21) puts it this way: Saussure’s “*Course in General Linguistics* seems to exaggerate the extent to which linguistics and its object of study can be defined as one, homogeneous, and neatly bounded and situated. The efforts deployed to this end effectively isolate language and its study from the rest of the social and natural world.... Similarly, while it finds its central ‘mechanism of language’ on fundamental cognitive processes, the essay describes both thought and sound as ‘amorphous’ before language as social convention constitutes each, thereby slighting the incidence of other sensory-motor processes and of mimetic learning.”

¹²⁰ Section 2.4.8.1 through 7, below.

¹²¹ Section 2.4.8.8 through 12, below.

¹²² Section 2.4.8.13 through 24, below.

the *two distinct* one-way relations, the purely symbolic one, not the one of mixed iconicity and indexicality (the *σημείον* relationship) entangled with the symbolic relation.

So when Saussure says that the elements of linguistic communication are *arbitrary*, this is true concerning two of the three relations in which words are directly involved, but, of these *two* “arbitrary” relations of words, *only one*, the symbolic relation of words to thoughts, is considered and incorporated into the signifiant/signifié model, the *patron général*. Jakobson and Lotman will, in effect, object that the *nonarbitrary* *σημείον* relation cannot be simply excluded from the *patron général*, because the “arbitrariness” of the *signifiant* to the *signifié* relation is irreducibly and inescapably entangled¹²³ with the iconic/indexical status of words as *σημεία*.

Now, if we combine the “fact” of the twofold arbitrariness of words with the further “fact” of entanglement wherein “arbitrary” words as *σύμβολα* of thoughts are *at the same time inextricably as well* *σημεία* of these same thoughts, whence, inescapably, iconic and indexical elements that can be neither stipulatively controlled nor reduced to symbolicity enter into the *signifiant/signifié* “arbitrariness,” we have the basis for the prior possibility of what becomes, in the semiological work of Jacques Derrida, the project of “deconstruction.” Objects signified (i.e., significates in the semiotic sense, which *need not be and usually are not* mental representations¹²⁴) are omitted from the Saussurean model, wherein the *signifié* is *never anything but a mental representation* in interplay iconically with other mental representations within the subjectivity of the user of *langue*.

Deconstruction is a project to which any and every text is thus (indeed!) a priori liable. But, what needs to be noted—and what seems constantly to escape the notice of deconstructionist Derridean epigones—is that the ultimate source of the passions in the environmental interaction (both cultural and physical) of human animals with material surroundings objectified in turn imposes *indirect limits* on the deconstructive process,¹²⁵ just as more *directly* there is also need for consideration at times (though far from always, and deconstruction as a method marks a great advance in the understanding of this matter) of the “intentions of the author.” (Deconstruction as a process normally tends legitimately and systematically to leave out of consideration the authorial intention as a factor in the construal of texts. Yet there are times when such intention as textual factor cannot be omitted from consideration without some distortion of sense at critical junctures, so far as linguistic signs have not only a customary and iconic dimension but also and always a stipulative dimension, which is exactly what separates them within the class of “customary signs” from the purely customary signs of the “brute” animals overlapping within the semioses of human animals, and conversely.)

¹²³ See note 37 above, and Sects. 2.4.8.21 through 2.4.8.23.

¹²⁴ The exception is the case of self-reflexion in a semiotic animal: see Poinset 1632: ppendix A, The Signification of Language, “On the relations between words, ideas, and objects,” 342–351, esp. 349/37–351/14 (focused below at note 167).

¹²⁵ This is also discussed in Eco (1990, esp. Chap. 1).

Thus, the omission in semiology (i.e., in the Saussurean model proposed for sign in general) of a *signifié* in the semiotic sense of significate or “object signified,”¹²⁶ which results in the complete elimination of the consideration of things-as-they-are-in-themselves from the theoretical ambit of semiological analysis, is exactly what leads (not necessarily, but in the practice of thinkers mistakenly thinking that the Saussurean dyadic sign conception is indeed a *general* model, which it is not) to the abusive and narcissistic excesses of deconstruction (mis)construed and (mis)applied as a “universal method of linguistic and cultural analysis.” This same blunder, expressed in several issues of the *History and Theory* journal over the past two decades, can be seen as the root of the dilemma in which some contemporary historians—falsely thinking that semiology as such is “postmodern”¹²⁷—find themselves unable to explain the difference between historiography and fiction.¹²⁸ This again is a logical consequence of failing to recognize the duplicity of the notion of *signifié* hidden (or lost) in the dyadicity of the Saussurean proposal for the being proper to “sign.”

A valuable method and landmark contribution to the development of semiotic consciousness, deconstruction is but a tool among others for achieving textual interpretation, distortive however when it is (mis)taken for or (mis)represented as the “whole story”¹²⁹ (or even “last word”) in the reading of texts. Deconstruction provides but a preliminary step, more or less useful depending upon how rigid the reading of a given text has become or is tending to become (as, for example—to take an illustration at the utmost extreme¹³⁰—in the view of some Muslim

¹²⁶ And, as I have elsewhere noted (Deely 2009f, 2009g, 2009h, 2009i), the “signified” in the expression “object signified” is tacitly redundant, made necessary only by sedimentation into late modern national language usage of the Cartesian reversal of the subject/object distinction as it had been developing toward thematic expression in the later Latin centuries, a reversal wherein “subject” acquired a dominant sense of “psychological” and object a dominant sense of synonymy with “thing”—in contrast to the semiotic sense where “object” means always the second of three terms under a triadic relation, whether or not the object *also* has a subjective existence along with its objectivity, and “subject” means always an individual unit here-and-now part of the physical universe.

¹²⁷ On the question of postmodernity falsely so-called, see Deely (2001a, p. 611), text with notes 1 and 2, and the whole of Chap. 16; cf. also Deely 1986a for a perspective on semiology as a sub-development within semiotics more generally as the doctrine of signs.

¹²⁸ By far the most extensive treatment of the traditional “history discipline” in relation to semiotics, including this “contemporary” historiographical problem, is to be found in the writings of Williams Deely, beginning as early as 1982. A collected volume of these writings is in preparation as a volume in the Mouton de Gruyter “Semiotics, Communication and Cognition” series (SCC) under the general editorship of Paul Cobley with Kalevi Kull.

¹²⁹ Exactly as when the Saussurean dyadic code model for sign is represented as “the whole story” of semiotics. In such cases, at this point in history, what started out as a “pars pro toto fallacy”—the idea that the cultural sphere of sign action is the whole sphere of sign action, the original claim of “semiology”—molts into a “pars pro toto fraud,” when an exclusively semiological approach to signs (mis)represents itself as semiotics without qualification, as in Chandler 2002. See gloss thereon in references.

¹³⁰ There are similar controversies along this line, but back in the sixteenth and seventeenth centuries, over the translation of the Bible.

“believers” that Koranic texts are not subject to interpretation, and so cannot be translated into another language: the original or nothing!¹³¹).

2.4.8 *The Relationships Within and Constitutive of the Triangle*

If we look at Aristotle’s triangle now in this light, having as its three terms words, passions of the soul (principally *species impressae* strictly, but also and secondarily *species expressae* as both source and indirect significate of words), and things, and viewing those terms against the background of the various causalities from which relationships arise in the first place, what do we find are the *relationships* that make up the sides of this triangle? What are the *relationships* that obtain among the terms of this triangular structure?

The question is not as simple as one might imagine, or as is usually supposed in the literature that has grown up around this triangle (in which literature, as far as I know, the *actual* relationships embodied in the three sides have never been scrutinized — prescissed — in detail). For analytical purposes, let us label the base side of the triangle, between *words* and *things*, #1; then the side of the triangle from *things* to *passions*, #2; and the side of the triangle between *passions* and *words*, #3.

The choice behind this numbering is not simply arbitrary, but is based on the consideration of increasing relational complexity as we move around the three sides.

Triangle side #1 is the relationally simplest of the three: it involves only one single relation of symbolicity, and that one single relation is, moreover, univalent, obtaining only from the side of words as *fundamenta* to things as *termini* of a symbolic relation that has no component besides itself to make it anything other than “arbitrary,” “conventional,” or (most basically) “stipulated.”

Triangle side #2 is likewise simple in involving but a single relation, this time of iconicity rather than symbolicity; and this one single relation is *bivalent* rather than univalent: the iconicity relation constitutive of this side of Aristotle’s triangle obtains equally when we look from things to passions and when we look from passions to things.

Triangle side #3 is the side that is most complex relationally. It does not involve one single relation, but two relations, neither of which is bivalent and each of which is univalent, but in opposite directions. When we look from the words to the passions, exactly as when we look from the words to the things, we find only one single univalent relation of symbolicity. But unlike the univalent symbolic relation of words to things, the univalent symbolic relation of words to passions as constituting this side of the triangle does indeed have another component be-

¹³¹ But of course, were it true that the Koran “cannot be interpreted,” then it could not be *read* either or *understood in any language*, including its “original Arabic.” For there are sounds but no words without involvement of concepts, and concepts differ from sensations precisely in *being* interpretations, *species expressae*, as we saw in Sect. 2.4 above. To have a thought is to have an interpretation of that thought’s object, be it also a thing or “purely objective”—as in the case of a book “not subject to interpretation,” or a square circle, etc.!

sides itself which interferes with the “purity” of its symbolicity, and hence, as we will see, with the propriety of labeling it simply “arbitrary” in whatever sense of that word we care to choose. For *in order to be symbols*, and not merely physical marks or sounds or movements, the symbolic relation between words and things presupposes a *symptomatic* relation between the words and the passions. *This* relation, obtaining when the “words” are looked at from the side of the passions as symbolized, imports into the words indirectly, or “secondarily,” as Jakobson puts it, precisely elements of the iconicity in the passions and ideas deriving from them that environmental things introduce into the awareness of animal organisms in the interaction between the animal bodies and the bodies surrounding the animal bodies.

In order to appreciate the relevance of Aristotle’s triangle to the doctrine of signs, bear in mind that the question of the being proper to relations, the *singularity* of the indifference of relation to all the subjective divisions of being which makes semiosis in the first place possible at all, is undoubtedly the *ground-question* of semiotics. The *guide-question* is rather the question of the relational being itself of signs as involving irreducibly three terms in any fulfillment of semiosis as the action consequent upon that being, and consider that two of the three terms of Aristotle’s triangle are actual signs (words as words and passions as thoughts), while the third term, things, are as potential objects products (significates) precisely of the action of signs, able to become, moreover, signs in their own right as well as objects. With these two considerations in mind, the relevance of Aristotle’s triangle to the doctrine of signs, if not (as we will see) the triangular imagery or representation itself, is undeniable. It is this relevance that we want precisely to identify in the elements provided by each of the three sides of this triangle—this, as we will see, *presemiotic triangle*—so often mislabeled as rather (I have committed this error myself on previous occasions) a “semiotic triangle” or “semantic triangle” or “triangle of meaning.”

Let us, then, examine each of the sides in turn, to see exactly what of relation they involve.

2.4.8.1 The triangle side #1 between words and things

Looking at the side of the triangle representing a relation between words and things, the most striking feature is the *poverty* of the relationship which constitutes this “side.” The relationship is purely one-sided, one-way, and exclusively symbolic, as close to empty of indexicality and iconicity as could be. Whatever there is of indexicality depends wholly on the will or “intention” of the speaker, his or her freedom to *stipulate*, Alice-in-Wonderland fashion.¹³² Whatever there is of iconicity is twice-removed from the things objectified, i.e., the things as spoken about, deriva-

¹³² “When I use a word,” Humpty Dumpty said, in a rather scornful tone, “it means just what I choose it to mean, neither more nor less.”

“The question is,” said Alice, “whether you can make words mean so many different things.”

“The question is,” said Humpty Dumpty, “*which* is to be master—that’s all.”

tive exclusively and indirectly from the “passions of the soul,” and only thence, if at all—“twice-removed,” as has been said—from the objectified things (through their more direct influence on the passions in the interaction of the animal body with its physical surroundings). Thus, while there is a relation of words to things, there is no direct relation at all back from things to the words discussing or “naming” them.¹³³ And the one-sided relation of words to things, with no *direct* relation at all back (from the *things* spoken about to the words spoken), is simply that of convention and culture, a matter of *σύμβολον*—nothing more, nothing less, nothing besides.

2.4.8.2 “Common sense” and Saussure’s model

But of course the “things as things” are never quite wholly even when partially the same as the “things as objects;” and while the things spoken about as things are normally wholly independent of the words used to speak about, denote, refer to, or name (actually: *to signify*) them, the things as objects have no such total independence, so that even on this side of the triangle “the conventional dimension of languages,” as Broden points out,¹³⁴ can be said to “represent ‘genuine institutions’” definitely constraining the Alice-in-Wonderland sense of “arbitrariness.” In short (Borden 2009), *stipulation* as a matter of individual will is never the whole story, even on this weakest side of the triangle: even here, “arbitrary” means “fixed at a moment in history through their use (i.e., the use of linguistic signs, words) by a given community,” even though “ever subject to change in the process of their transmission through time and individual speakers.”

Nonetheless, when Saussure speaks of language as the *patron général* for a science of signs and identifies the signs of language as “arbitrary,” the “common sense” response of the unsophisticated reader or listener is to think precisely of this relation

¹³³ And here it is worth recalling Augustine’s profound point that all words, as items of linguistic communication, be they nouns or verbs, pronouns or adjectives, categorematic or syncategorematic—all items of linguistic communication taken in their distinctive and proper being are *names*.

¹³⁴ Broden (2009, p. 15), which echoes Saussure i.1907–1911: in the Baskin trans. p. 76. Poinot, approaching this matter from the side of “ideas” as so-called formal signs (that is, psychological states which signify whether or not they are themselves objectified) rather than from the side of “words” as “instrumental signs” (that is, material realities of the physical surroundings which must be themselves objects of awareness in order to function also as signs), nonetheless echoes the point made much more straightforwardly by Saussure and Broden: see *Tractatus de Signis* Book III, Question 4, on the “Distinction inter conceptum ultimum et nonultimum”, 334/1–340/4. See note below.

The weakness in this aspect of Poinot’s semiotic analysis appears precisely in the hindsight of our understanding of language as a secondary modeling system in the shaping of individual identity. Broden (2009, p. 27) well states the situation as it appears to us today: “From the foundational *I-thou* relation spring both speech and the subject; language no longer appears as an external instrument of communication which the individual freely manipulates, but rather as the symbolic and dialogic dimension in which subjectivity and especially intersubjectivity are constituted.”

of words to things as the paradigm of arbitrariness in the sign/signified model. But of course, in thinking thus, “common sense” as usual (or at least all too often) leads directly to a theoretical disaster. For not only is Saussure *not* thinking of the relation of words to things as signifieds, but there is also in fact *no direct place in his system of langue* which includes objects in the sense according to which they can be partially identified with things existing independently of thought. That is to say, the Saussurean model of sign has no place for the *object signified*, but only for the idea or “thought” which words in their common usage seldom signify directly at all outside the specialized discourses of philosophy, psychology, and some social sciences,¹³⁵ but *on the basis of which* objects are signified and also things become objects.

2.4.8.3 Other-representation vs. self-representation

For once it is understood that the difference between a sign and an object lies in the difference between self-representation and *other*-representation, it becomes possible to understand the formula that Peirce took from the Conimbricenses, that “all thought is in signs”—because that is precisely what thought consists in (the representation of what is *other* than the thought itself, namely, its object, whether that object is also a thing independent of thought or not). Things objectified represent themselves in awareness, but they do so only on the basis of the other-representations presenting things in awareness, thoughts as signs. When in turn objects signified become themselves signs, they no longer represent only themselves but *something else* as well. Thus, whether the vehicle of signification, the “sign” in the sense of some individual or aspect thereof, is first of all a material object or first of all a psychological state, in both cases it is the element of *other*-representation that makes the sign be a sign. And this represented other is presented to or for some third—the animal perceiving, for example: hence the triadic character of the sign relation in every actual semiosis.

2.4.8.4 “Common sense” again

“Common sense” might suggest that this words–things “side” of Aristotle’s triangle would best have constituted Saussure’s model of the *patron général* for his (false) idea that the “science of signs” can be constructed on the foundation of the “arbitrariness” of linguistic signs. Thinking in this “common sense” way, however, quite misses Saussure’s objective abstractly to constitute *langue* as a system (a geometrical synchrony) complete unto itself, “self-contained,” as it were (and is likely to miss as well Saussure’s central insight in finding a way, as Broden puts

¹³⁵ See the text from Poinot 1632: *Tractatus de Signis*, Appendix A, 345/9–10 and 349/37–351/8, cited in note 114 above.

it,¹³⁶ to describe language “holistically as a *system* constituted by *relations*”). We can see from Aristotle’s triangle that indeed words considered as “*signifiants*” are “arbitrary”—arbitrary in relating as *symbola* to their *signifiés*, and this is so whether we take the *signifié* to be the passions (Saussure’s own taking) or whether we take the *signifié* to be the things objectified “about which” the words are spoken, as do the more “naive” interpreters of Saussure relying overmuch on “common sense.”

2.4.8.5 The hidden third

But we can also see that this “arbitrary” relation of Saussure’s model, whether on the misled “common sense” taking or on Saussure’s own theoretical taking, presupposes rather than includes a “missing third.” On the commonsense mistaking, it is the interpretant (in this case a mental representation, the “concept” or “idea”) that is missing. But on the Saussurean theoretical taking, what drops out of the *signifiant/signifié* is rather the objectifiable things as things that language can be and normally is used to speak of.¹³⁷

2.4.8.6 The triadic relation

Yet there remains the fact, even in the theoretical taking of Saussure, as we will see when we come to examine the third side of the triangle (the words/passions side), that words are symptomatic *indexically* of passions *iconically* related to the very “things” to which the words themselves lack both symptomaticity and indexicality as directly necessary elements (and which Saussure hence omits from his model). Only when is added, however, the nonarbitrary but indirect yet indexical/iconic connection of words to things via the passions as caused by the action of things, only then do the words *fully* exist as signs *actually* signifying in direct speech—so that, as Poinot put it in his original establishment of the sign as triadic,¹³⁸ not dyadic:

¹³⁶ Broden (2009, p. 11).

¹³⁷ And indeed they are no part of linguistics on any accounting, but rather the concern of the ideoscopic “hard sciences,” including biology, where, however, in zoösemiosis, as semiotics has made unmistakable, linguistic communication finds itself in an unavoidable overlap with nonlinguistic channels of animal communication. See Deely 1980.

¹³⁸ Poinot 1632: *Tractatus de Signis* Book I, Question 3, 154/5–30: “Ut ergo non solum pure obiective, sed etiam significative respiciat potentiam, inquirendum restat, an illamet relatio, qua significatum respicit, et in ordine ad quod rationem signi induit, illamet etiam respiciat potentiam, cui signatum hoc manifestandum est a signo; an vero relationem habeat ad signatum purificatam et absolutam a respectu ad potentiam, alia vero relatione respiciat potentiam in ratione obiecti, et utraque concurrat ad rationem signi constituendam, vel etiam in ipsa ratione signi praeter rationem obiecti reperiat duplex relatio, altera ad potentiam, altera ad signatum.

“Et consurgit difficultatis ratio, quia ex una parte signum non respicit solum signatum in se, sed in ordine ad potentiam, cum in definitione signi ordo ad potentiam includatur, scilicet quod sit manifestativum potentiae etc. Si ergo ratio signi respectum istum dicit ad potentiam, vel

Only when the mind is considered as a term attained by the word indirectly do we see that the significance attained by the word directly is involved as sign in one single relation of three terms [that is to say, in an irreducibly *triadic* relation], *which relation alone constitutes the proper and formal being of the sign as sign.*

2.4.8.7 “Common speech” vs. “*Langue*”

In other words, in actual speech, in “ordinary language,” the *signifié* is an object signified, a “*significatum*,” in precisely the sense left unconsidered in the terms of Saussure’s model, and only indirectly or secondarily is the *signifié* the psychological state of the language user, as Saussure postulates for the direct and restricted purposes of his system.¹³⁹ We shall return to this point when we reach an examination the third side of the triangle, where we will be able to identify the root of the “debate,” as Lotman calls it, between Saussure and Jakobson.

2.4.8.8 The triangle side #2 between words and things

We turn now to the second side of our triangle, the side representing the relationship between things of the world and passions of the soul. This side is in a way, if not the simplest, at least the most straightforward of the three sides. It involves a relation that is single but bilateral, thus perfectly symmetrical, in contrast to the single relation between words and things which is unilateral and hence asymmetrical. Things are related to passions of the soul most fundamentally in exactly the way that passions of the soul are most fundamentally related to things of the world: as ὁμοιώματα—“likenesses.” *Agere facit simile sibi*: an agent stamps its likeness on its effects. Thus are the “passions” and the things as producing them likenesses of one another, reciprocal likenesses, indexically constituted from interactions between animal organism and physical surroundings, the passions related as iconic effects of the things as causes¹⁴⁰ brought about by the interaction

unica et eadem relatione respicit utrumque, et currunt difficultates infra attingendae, quia sunt termini omnino diversi, cum respectu potentiae sit solum relatio rationis: respectu signati sit ordo mensurati ad mensuram, respectu potentiae e contra potentia sit mensurabilis ab ipso signo ut ab obiecto cognito. Vel est diversa relatio signi ad potentiam et signatum, et sic non erit signum in praedicamento relationis, quia in ratione signi non est unica relatio, sed pluralitas relationum.

Sit nihilominus conclusio: Si potentia et signatum considerentur ut termini directe acti per relationem, necessario exigunt duplicem relationem in signo, sed hoc modo signum respicit potentiam directe ut obiectum, non formaliter ut signum. Si vero consideretur potentia ut terminus in obliquo actatus, *sic unica relatione signi attingitur signatum et potentia, et haec est propria et formalis ratio signi*” (italic added).

¹³⁹ “Following Bréal,” Broden notes ((2009, p. 11), citing Saussure (i.1907–1911 pp. 99–100), with cross-references) “a natural language and the human ‘linguistic faculty’ that informs it represent not an external object but a cognitive phenomenon for a subject: ‘*Synchronic linguistics* will be concerned with the logical and psychological relations that bind together coexisting terms and form a system in the collective mind of speakers.’”

¹⁴⁰ We can see from this consideration how Boethius’ choice of a Latin term—*nota*, a synonym of *signum* but with the connotation of an “index,” closer to ὁμοιώματα and σημεία as “symp-

of the animal body (be the animal human and semiotic or brute and semiosis only) with the surrounding bodies of its immediate environment.

2.4.8.9 Experience presupposed to discovering signs

Precisely, here does the fuller treatment of the *De anima* that Aristotle refers to enter in to the consideration of his triangle. While practically everyone in philosophy today, across the schools, is in agreement that philosophy is about “experience” above all, it was not so in ancient Greek and medieval Latin times. Ancient and medieval philosophy took as the primary concern the reality independent of experience, not experience as involving an interweave of mind-dependent and mind-independent being; and of experience itself they had an exceedingly narrow view, amounting to little more than Aquinas’ definition of sensation as “*actio sensibilis in sensu*”—the action of the sensible thing upon the sense organs of the animal body.¹⁴¹

2.4.8.10 The ascent from sensation

Thus, when Aristotle spoke of the “passions of the soul,” he had in mind primarily *both* the beginnings of animal awareness (or “knowledge”) *and* the constant tie-in of that knowledge to the sensible world of interacting things—albeit among human animals (as we saw in Sect. 18. above) as that chain of “ties to sensation” is the initial point of departure in understanding for the formation of properly intellectual concepts (or *species expressae intellectae* in contrast to the *species impressae intelligibiles*), which are themselves tied to the *species impressae sentiendi* via the *species expressae phantasiandi* or “phantasms” without which there could be no human knowledge at all.

toms” than to σύμβολα—to designate *all three* sides of Aristotle’s triangle, whereas Aristotle himself had used σημεῖον both narrowly (in the sense of symptom) and for only *one* relation on *one* side of the triangle (see Boethius’ text in note above) threw Pedro da Fonseca into a fit when he read Aristotle’s own Greek text for himself, rather than through the eyes of the earlier Latins ignorant of Greek who had relied upon perforce the rendering of Boethius. It was one of the most dramatic moments in the whole Latin development of semiotics, one which had a shaping influence on Descartes’ college years and in its own time threatened to derail the Latin discussion of sign as it had developed independently of ancient Greek philosophy in the Latin centuries after Augustine and Boethius. See Deely (2001a, Chap. 9), “Three outcomes, two destinies,” pp. 411–446.

¹⁴¹ “Realism,” for the ancients and medievals, had a much narrower focus than what that term evokes in modern and postmodern philosophy (see Deely 1992, the tenth reading in Copley Ed. 2009d, for details; consult also relevant essays in Copley Ed. 2009c). The term connoted and denoted purely and simply the role of the senses in knowledge. And indeed, true to the medieval heritage, this focus corresponded exactly to the manner in which experience was defined, both in the Thomistic line and among the Latins generally, as writers of the period testified (see, for example, the authoritative summary of Poinset 1632: 306/13–307/4, in which the physical presence of a thing acting upon an external sense organ is described as “the paradigm case of experience”—“*est ipsamet experientia*”).

2.4.8.11 Interaction as producing sensation

“*Sensatio est actio sensibilis in sensu*”—“sensation is the action of a material object upon the animal body’s organ of sense”: this action belongs to the order of brute secondness as a dyadic interaction; but because *agens facit simile sibi*, because an agent produces an effect in the likeness of its being as acting, the resulting relation which survives the dyadic interaction of “cause and effect” (or “agent and patient”) is necessarily and irreducibly an iconic relation, even as bespeaking or revealing (through iconicity) the indexicality of its origin.

2.4.8.12 Triadicity within sensation

Again, we are dealing with an aspect of the ancient triangle that is crucial for the understanding of semiotics (omitted from the *signifiant/signifié* model, nonetheless), inasmuch as sensation (even as prescissively prior to the formation of those other-representations or “concepts” by which *all animals* evaluate what of their physical surroundings they become aware of in sensation) is already a semiosis. As such, it involves from its first moment and throughout triadic sign relations whereby, in this case, the common sensibles on the basis of the proper sensibles make the animal aware of its surroundings (sights, sounds, smells, shapes, movements, positions, etc.) as in need of evaluation for purposes of the sensing organism’s well-being and survival.¹⁴²

¹⁴² Poinso 1632: *Tractatus de Signis*, Book I, Question 6, 204/9–11 and 205/34–37: “Bruta proprie utuntur signis, tam naturalibus quam ex consuetudine;” et “non solum sensus interni, sed etiam externi in nobis et in brutis percipiunt significationem et utuntur signis.” The theoretical importance of this point has perhaps been best stated by another cryptosemiotician, in this case Josephus Gretd (1924, p. iv): “Scripto nostro tamquam unica via ad idealismum vitandum manifestatur realismus naturalis integralis philosophiae thomisticae, cujus cardo in doctrina consistit de sensuum externorum cognitione intuitiva excludente quamcumque speciem expressam.” But this implication too is anticipated in Poinso 1632: 312/3–6: “If the object of external sensation [prescissively considered] exists in something produced by sense itself as in an image or effect, then that object will not be some thing sensed immediately but rather something sensed in the image, which image itself rather will be that which is sensed”—“Quodsi existat in aliquo sui ut in imagine vel effectu, non immediate videbitur, sed ut contentum in imagine, ipsa vero imago est, quae videtur.” Ah, if only Hume had read Poinso on this point which he thought no one had ever considered in other than the modern perspective making of ideas themselves—*species expressae*—the direct objects of knowledge in sensation! Certainly, he could never have written as he did in 1748: Sect. XII, Part I. Hume in this regard is discussed in Deely 2009c, Sect. 12.7–8. Full analysis of “sensibles”—proper and common, primary and secondary—in Deely 2001a: 522–535.

2.4.8.13 The triangle side #3 between words and things

The relation between passions and words turns out to be not one but two quite different relations depending upon which way we look at. It also turns out to be the *only* side that is given consideration in Saussure's *signifiant/signifié* model, upon which he vainly thought to found a complete "science of signs." But let us focus on the relations constitutive of this side.

2.4.8.14 Words as symptoms vs. words as symbols

Looked at one way, words must be said to appear as and to be σημεία, not in the general sense of "signs" but in the specific ancient sense of "symptoms"—to wit, symptoms of the presence of thoughts, as certain red marks on the skin manifest the underlying presence of the viral disease measles, etc. But, at the same time, properly and in their own right as linguistic media of communication, words for Aristotle are not *semeia* in a less than generic sense at all, but must be regarded rather as σύμβολα (arguably a species of σημεῖον generically considered). They "words of language" belong thus to nature *and* to culture—but in entirely different and unconnected ways, considering only *direct* connections.

2.4.8.15 The symptom side

In the first case, we are regarding the words primarily in their physical being as sounds emitted by the animal, natural phenomena in the quite precise sense of forming part of the physical universe with its distinctive character of τὸ ὄν, what the Latins will call *ens reale* or "mind-independent being" (because it need not be known in order to exist—in the present case, a physical vibration or mark on some surface is what it is, even when no one regards it).

2.4.8.16 The symbol side

But in the second case, we are regarding the words as cultural creations, instruments of conventions which differ between Greeks and barbarians, and barbarians among themselves.¹⁴³ They are not simple creatures of nature at all, but rather

¹⁴³ Poinsoot discusses these differences quite pointedly in his 1632 *Tractatus de Signis* in Book III, Question 4e.g., 337/31–41: "we say that concepts signify the same thing for all when they are about the same object and have been formed in the same way, for they are natural similitudes. Thus, all non-ultimate concepts representing expressions (or voices) inasmuch as they are significative represent the same thing for all those among whom they are so formed. But if they are not so formed among all hearing them, owing to the fact that not all know the signification of the voices, then the concepts of the voices were not concepts of the same thing, and so will not signify the same thing for all." So we can also say of the passions themselves at their most

manifestations and expressions of *interpretations* (and hence of the *species expressae* discussed in Sect. 2.4.3. above, in contrast to the *species impressae*, which last are what constitute most properly and directly *passiones animae* both at the sensory and perceptual levels, as also at the intellectual level of the *species intelligibiles* rendered by the activity of the intellect out of the phantasms as *species expressae* of the animal Umwelt).

2.4.8.17 Words as manifesting subjectivity

Thus, if we consider the words in our triangle as sounds or marks, they are related to the passions of the soul as “signs,” all right, but only in one of the specific Greek senses of *semeia*, in this case natural signs such as practitioners of medicine rely upon—symptoms. As *semeia*, words are *symptoms* manifesting the presence in the speaker (or writer) of an underlying cognitive psychological state, the existence of which the words manifest, of which the words are “symptoms”—no different in this regard than groans manifesting pain. They are outward manifestations, whether Greek or barbarian, of an inward condition of the organism engaged in linguistic communication; and this without regard for what that communication may be or be intended to be.

2.4.8.18 Words as aiming to establish intersubjectivity

If we look back the other way, and consider the words not merely symptomatically but in terms of their *involvement with an intention or desire to communicate*, that is to say, as the result of a kind of choice made on the part of the speaker within a linguistic tradition (“*langue*”)—if we consider the words not merely as sounds or marks symptomatic of a psychological state, but rather as instruments fashioned for the purpose of communicating some content of awareness—in this way the words appear not as *semeia* or symptoms primarily at all but rather as *symbola*. The huge difference between the two is precisely the divide between *nature* and *culture* in the ancient way of understanding the two as oppositional.

primary *sentire* level: even here there is more diversity among organisms within a species than was realized in the pre-evolutionary perspective of Aristotle and the Latins—so much so that it may even be said that, as Kalevi Kull remarked to me on the point, there is in some respects more uniformity at the level of words as governed by customs within culture than there is at the level of passions themselves as induced by the action of the sensible surroundings upon the sense organs of animals, working their way up through the *species impressae* first of internal sense and then of understanding.

2.4.8.19 The required “other science”

Here we can understand Aristotle’s realization that some “other science” than logic is required to understand the relation of words as words to the passions of the soul, and also his precipitousness in identifying that “other science” with psychology (*de anima*), for no realization existed as yet of culture as¹⁴⁴ “that minuscule segment of nature some anthropologists grandly compartmentalize as culture.” Saussure in fact makes virtually the same mistake as Aristotle in this regard, even though he did indeed realize that the required “other science,” for which he proposes the name “semiology,” is one that did not exist in Aristotle’s day. For Saussure saw, as Broden puts it (2009, p. 16), that “whereas psychology may study pure ideas and physics raw sounds,” what is required to understand the words of language as *signs*—and hence the *signs* of language—is rather a science which “investigates a phenomenon in which the two [psychology and physics] interact and condition each other at every turn.”¹⁴⁵

2.4.8.20 Umwelt species-specifically human = Lebenswelt

Linguistics does this, indeed; and shows in so doing precisely how linguistic communication constitutes a secondary modeling system¹⁴⁶ exapted from the primary adaptive modeling system of the human animal *Innenwelt* in its biologically under-determined aspect, as we saw in Sect. 2.4.6.5 above. But the required science must

¹⁴⁴ Sebeok (1984a p. 2); cf. Deely 2010.

¹⁴⁵ Just this interaction is what is wanting in Poinot’s analysis of “ultimate and nonultimate” linguistic concepts, mentioned in note 134 above. It is precisely to mark and to foreground the *interdependence* of words and ideas, Broden points out (citing Saussure i. 1907–1911, pp. 103, 111–117), that “Saussure introduces [his] pair of neologisms: the sign comprises the *signifier* (cf. sound) and the *signified* (cf. concept), such that the Janus linguistic entity resembles the sides of a single sheet of paper.” Adding the interaction of bodies as *also* subsumed into language through the passions of the soul is required, then, to complete the triadic structure of the linguistic sign in the web of experience, larger than language, which ties the human animal into the biosphere shared with every life-form, and not only into the semiosphere of culture within the biosphere. “Language is” indeed, as Saussure insists (i. 1907–1911, p. 122), “a form” constituted by relations “and not a substance”: but no dyad or combination of dyads make up a sign properly speaking, but only a triadic relation wherein one thing stands for another to or for some third. Dyads as such always reveal secondness, essential in the shaping of thirdness from firstness, indeed, but never itself the necessary *vis a prospecto* distinctive of semiosis.

¹⁴⁶ Saussure’s post-1907 “strategic move is to say that while cumulatively and over time, ‘analogy occupies a preponderant place in the theory of evolution’ of languages, analogical creations as such illustrate not so much linguistic change but rather the synchronic functioning of language conceived as a virtual system and as *en-ergeia*, as a complex of ‘generative forms’” (Broden 2009, p. 13). In this synchronic functioning, which is not a segment of any diachrony, but (Lotman 1990, p. 6) a homeostatic “bearer of the relationships which make up the essence of language” (“synchrony is homeostatic while diachrony is made up of a series of external and accidental infringements of it, in reacting against which synchrony re-establishes its integrity”), Saussure (i.1907–1911, p. 169) points out that “language never stops interpreting and decomposing the units given to it,” so that it becomes over time (ibid., 172) “a garment covered with patches cut from its own cloth.”

do something more even than this: it must include within its purview the interaction within experience as a whole (inseparable from the zoösemiotic components of sensation and sense-perception) between ideas and things in the very process—semiotic to the core—of objectification as it begins even before the formation of those ideological other-representations which come to expression in language and open the path to yet a third modeling system, namely, the world of culture. For the realm of culture, as distinct from the social organization and interaction typical of all higher animals, is accessible directly only through language in the species-specific sense of anthroposemiosis as transformative of the *Umwelt* from a closed objective world biologically defined to an *Umwelt*—a *Lebenswelt* now—open cosmologically.

2.4.8.21 Culture is to nature as a web is to a spider

The huge gap between nature and culture oppositionally conceived is precisely the divide that Augustine will identify, subsume, and transcend semiotically with his seldom fully considered distinction¹⁴⁷ between *signa naturalia* and *signa data*. The later Latins will put the point more generally (but no longer including the signs of the plant world, as did Augustine’s first general division of the *signa data*) by remarking that the action of signs transcends the divide between what stems from the order of *ens reale* first of all and what stems, rather, first of all and primarily, from the order of *ens rationis*, mind-dependent being, the order of culture and convention as shaping the world of nature to its own ends and purposes. Passions are related to words as their cause, insofar as the words are *semeia*; but, insofar as the words have an overlying relation *back* to passions as *symbola* thereof, the passions are related to the words as providing *directly* their communicative content (itself received *directly* from the surrounding “things” which thus “inform” the words *indirectly* even though the *direct* “application” of the words is *to the things* and not *to the developed passions* which—symbolically—provide the words with their “content” directly and their iconicity indirectly, as Jakobson emphasized in underscoring the σύμβολα/σμίμεία entanglement on the words/passions side #3 of the triangle).

2.4.8.22 Jakobson’s debate point

Here, then, is where account must be taken of what Lotman¹⁴⁸ described as “the ‘debate’ between those two linguists of genius, Saussure and Jakobson,” over the sufficiency of the claim that “arbitrariness” is the identificative foundation of the linguistic sign. As we see now clearly, thanks to an examination of Aristotle’s triangle within the perspective of the major tradition of semiotics after Sebeok, a symbolic relation—the relation alone which *of its very nature* contains an element of arbitrariness—is involved *both* in the relation of words to passions *and* in the relation

¹⁴⁷ On this point, see Deely (2009c, Sect. 6., pp. 35–56).

¹⁴⁸ Lotman (1990, p. 17).

of words to things. But, as we have taken care to see, *only* in the relation of words to things is the symbolic relation the *only* relation: *only* there, which is emphatically *not* where Saussure placed his *signifiant/signifié* relation, does arbitrariness “stand alone,” as it were, in characterizing the linguistic sign with a symbolic dimension.

2.4.8.23 Lotman’s summation of Jakobson’s point

In the connection between words and thoughts, by contrast, which *is* where Saussure (counterintuitively to the common use of language, as we noted in Sect. 2.4.8.2–2.4.8.7 above) placed his *signifiant/signifié* relation, there is *also* involved a relation of symptomaticity. From this involvement *inevitably natural language*¹⁴⁹ “*acquires secondary features of iconism*” *along with and de facto inseparable from whatever arbitrariness the symbolic relation in this case sustains*, proving “Potebnya’s (1862) idea that the entire sphere of language belongs to art.” That is to say, natural language conveys, along with whatever “arbitrariness” attaches to the words as symbols, *also* secondary iconic features without which the element of arbitrariness ceases to belong to a *natural* language (as evidenced, for example, in the delusional thesis of “Analytic Philosophy” after Kripke that proper names in natural language are “rigid designators”—surely the prime illustration in late modern philosophy of what Sebeok frequently described as “looking in the destination for what should have been sought in the source” or, on one alternate occasion, as a “deluded misconstrual of the facts of the matter”).

2.4.8.24 Origins of the web in linguistic communication

And remember, here, in the earliest decades of “philosophy,” we are in the world of cenoscopic science only, and in its initial phase of development as “ancient philosophy among the Greeks”: there is no general notion of sign as yet considered as common to nature and culture, such as we will find for the first time mainly in and after the work of Augustine.¹⁵⁰ Thus, the words of the triangle manifest a twofold relation that is not at all symmetrical: looked at from the side of the passions, the words are symptoms of a psychological state; but looked at from the side of the words, the passions are symbolically conveyed—not as to their existence but rather as to their content. The former standpoint reveals only, or at least primarily, a phenomenon of nature, the latter standpoint only, or at least primarily, a phenomenon of convention and culture.

¹⁴⁹ In Lotman’s (1990, pp. 17–18) summary of Jakobson’s argument against Saussure, italics added.

¹⁵⁰ See Deely 2009c for the most detailed treatment so far, but a treatment inspired above all by the work of Manetti 1987, which I first learned of through the work of Eco et al. 1984 and 1986, which Eco made me aware of in his opening lectures for our team-taught course on the “Historiographical Foundations of Semiotics” for the International Summer Institute for Semiotics and Structural Studies held in 1983 at Indiana University, Bloomington.

2.4.8.25 “Alterius Est Enim Negotii”: Exactly What is the Presupposed “Investigation Distinct” from Logic and Linguistic Interpretation Required for Correctly Understanding the Triangle?

Now let us consider this whole matter of the triangle no longer in the traditional perspective of Aristotle himself; nor for what it shows us of the insufficiency for semiotics of the Saussurean model of sign; nor even in the perspective of the Aristotelian commentary tradition known as scholasticism, which grew up with the institution of the universities as its basic skeletal structure until well into the eighteenth century. At that historical epoch—the eighteenth century—it became possible no longer to conceive of university education in exclusively cenoscopic terms, and place had to be yielded and made for the institutionalization of ideoscopy that we know as modern science, in contrast to cenoscopy (and in that sense also to semiotics, inasmuch as the doctrine of signs, as Peirce put it,¹⁵¹ is a cenoscopic science underlying all other science—the point the Enlightenment missed).

Let us consider our seminal triangle, inherited from Aristotle, now simply in the light of Augustine’s discovery that there is a general notion of sign that is common to the phenomena of nature and of culture, as also in the light of Poinso’s realization that relation is singularly indifferent to the division of nature from culture and mind-independent from mind-dependent being (in that one and the same relation can belong at different times to either order, depending upon nothing in the being of relation as suprasubjective but only upon the circumstances under which that suprasubjective being is realized here and now).

With the establishment between the Conimbricenses (1606/1607) and Poinso’s own work (1632) that the being proper to signs consists precisely in a relation that is not only suprasubjective (as are all relations) but also triadic (as are all *sign* relations), the distinction that was drawn by Aristotle and the ancients between *σημείον* (as belonging exclusively to nature) and *σύμβολον* (as exclusively cultural)¹⁵² breaks down. Indeed, the whole distinction between signs as external material objects and concepts (both generically animal and specifically human concepts, all *species expressae*, as Poinso would point out¹⁵³) as internal psychological states—i.e., in modern terms, the basic distinction between “inner” and “outer”—breaks down with the realization that any given particular, physical or psychological, functions as a “sign” (or rather, provides the vehicle for a signification) when and only when it occupies the foreground position of representing another than itself to or for some third within and under a triadic relation unifying all three terms in one signification.

In that case, the foundational investigation for the elements and terms of the triangle with which Aristotle opens his discussion of logical interpretation is no longer or primarily the *Treatise on the Soul*, where the notions of *sentire*, *phantasiari*, and *intelligere* are discussed in their common terms and distinctive developments, but rather the *doctrina signorum*—the “doctrine of signs” spoken of in common by

¹⁵¹ Peirce 1908: CP 8.343, in a draft of a letter to Victoria Lady Welby. See Deely 2011.

¹⁵² Useful to read in this connection is Eco 1986.

¹⁵³ Poinso 1632: *Treatise on Signs*, Book II, Question 2, 240–253.

Poinsot, Locke, Peirce, and Sebeok¹⁵⁴—as able to constitute a body of knowledge in its own right studying what all other bodies of knowledge and fields of investigation take for granted, namely, the action of signs.

Precisely here, as I intimated above, does Poinsot, in discussing *perihermenias*, go beyond Aristotle. The “distinct and prior investigation” to which the full understanding of the triangle belongs turns out to be not the ancient *De Anima* (neither psychology in the narrower modern sense nor general biology, as we might say today, for the expression “de anima” applied to the whole living world, plants and brute animals no less than human animals), but rather the doctrine of signs. Not at all coincidentally, this investigation into signs is exactly how and where Poinsot introduces his *Tractatus de Signis*, that earliest systematic treatment wherein the being of signs as triadic relations is first established and demonstrated.¹⁵⁵ “Because all the instruments of logical interpretation are constituted from signs, therefore, lest the foundations of the expositions of logic and propositions go unexamined, we are obliged to take on the project of explaining the nature and divisions of signs as a special treatment of its own.”¹⁵⁶

2.4.9 *The Need for Intrinsic (Not Ad Hoc) Interdisciplinarity at the Curricular Core of University Studies*

Perhaps the principal task of the postmodern university is to determine how its institutional structure need best be modified to accommodate the maturation of a semiotic consciousness within intellectual culture. This task today is comparable in depth and importance to the task the universities of the eighteenth century faced yesterday, in having to determine how to accommodate that maturation of ideoscopic consciousness we know today as modern science,¹⁵⁷ only now the problem

¹⁵⁴ See esp. the terminological entry “Doctrine” in Sebeok et al. (1986, p. 214), for details of this oldest general expression to name the development called semiotic today. See also Deely 1976, 1977, 1982b, 1993a, 2006b, 2006c.

¹⁵⁵ See Poinsot 1632: “Super Libros Perihermenias. Remarks on Aristotle’s *Books on Interpretation*, explaining the relation of the *Treatise on Signs* to the Aristotelian tradition, its philosophical justification, and its presuppositions within the *Ars Logica*,” 38/1–39/18, together with the “Fifth Semiotic Marker” immediately following (p. 40) in the 1985 first independent edition of Poinsot’s 1632 *Tractatus de Signis*.

¹⁵⁶ Paraphrasing Poinsot 1632: 38/11–19, and 39/5–7, “Super Libros Perihermenias”: “Sed tamen, quia haec omnia tractantur in his libris per modum interpretationis et significationis, commune siquidem Logicae instrumentum est signum, quo omnia eius instrumenta constant, idcirco visum est in praesenti pro doctrina horum librorum ea tradere, quae ad explicandam naturam et divisiones signorum in Summulis insinuata, huc vero reservata sunt. Nec enim tironum captui quaestiones istae de signis proportionatae sunt. Nunc autem in hoc loco genuine introducuntur.... Ut autem clarius et uberius tractaretur, visum est seorsum de hoc edere tractatum.”

¹⁵⁷ On this transition from cenoscopy to ideoscopy in the early modern period, see Deely (2008a: esp. Chapters. 1 and 2). The failure of philosophy within the modern universities successfully to adapt to the dominance of idioscopy in modern intellectual life has best been attested to in the recent *magnum opus* of Ashley 2006, reviewed in Deely 2009g.

is how to respond institutionally to Broden’s accurate characterization¹⁵⁸ of “the last two centuries’ trend toward increasing specialization and the fragmentation of knowledge.”

Future thinkers, looking back a century hence on our situation today, are most likely to see the establishment of semiotics as a revolution, comparable in importance to the rebellion against scholasticism in the seventeenth century, except that the revolution in this case will have more the character of a *completion and maturation of scientific understanding* than an opposition to and rejection of the past. For just as the scientific revolution made specialization necessary, so the semiotic revolution will provide the antidote to specialization, not by rejecting ideoscopic specialization (as the authorities of the Scholastic Age in effect did) but through the realization of what all knowledge and experience have in common *including all specializations*, namely, a dependency upon semiosis as the action of signs, and hence the dependency of ideoscopy upon cenoscopy as something that needs to be molded into the institutional structure of the academy at the university level. As Daniel Taylor, one of my spring 2008 university students, presciently put it: “Semiotics investigates what all the other disciplines seem to take for granted.”

In this perspective, too, we can see that no small part of the reason why Aristotle’s triangle proved as seminal as it has over philosophy’s long history would be the fact that it augured the essential elements that had to be addressed in order to achieve an understanding of the being proper to signs as relational and irreducibly triadic. It is a triangle concerning “the meaning of meaning,” all right, as Ogden and Richards brought to the fore (and in particular to Sebeok’s attention in his undergraduate time in England); but the words/things/thoughts triangle is not correctly understandable as a “semantic triangle” *unless it is first and already understood* in semiotic terms as applicable to “meaning” throughout the order of animal Umwelts, even as it is for that very reason applicable within the Umwelt-as-Lebenswelt species-specific to semiotic animals.

In that sense, Aristotle’s triangle, presemiotic in the perspective of his own time and writings (where the rational basis for the unity of speculative and practical thought had not yet successfully been determined),¹⁵⁹ was yet “virtually semiotic” in anticipation objectively of the work, first, of Augustine and Poincaré among the Latins, and then no less of Peirce in inaugurating semiotics as the postmodern turn of philosophy within intellectual culture as a whole.¹⁶⁰ And yet it turns out that a triangle cannot be the best way to symbolize the relation of *sign itself* as a triadic structure, for the very reason that Floyd Merrell has repeatedly pointed out: any triangle of its very nature lends itself to being regarded as a set of three binary relations, and hence to reinforcing linear, bivalent thinking (e.g., sign/signified, as if a

¹⁵⁸ Broden (2009:, p. 31).

¹⁵⁹ See Deely (2001a, pp. 261n28), and expansion of the point in Deely 2003a: esp. the Section “*Semiotica Utramque Comprehendit*” in Chap. 6, 100–112.

¹⁶⁰ Deely 2015; also 2009b, 2009c, 2001a: Chaps. 15, 17, and 18; also Capozzi 1997.

dyad¹⁶¹), of the very sort that semiotics, in order to be achieved in its proper possibilities, had to move beyond.

So that ancient triangle of Aristotle, while it may not and, after all (as it turns out), *cannot* unqualifiedly symbolize the triadic sign, has nonetheless proved historically useful toward the development of semiotics. Let us conclude with a few words along that line of consideration—the usefulness of the triangle, despite its inappropriateness as a direct symbol of triadicity.

2.4.10 *Triad in Contrast to Triangle*

Perhaps the most remarkable and interesting thing about Poincot's demonstration that the science presupposed to understanding logic and the interrelations between words, thoughts, and things is not psychology ("*De anima*," whether ideoscopically or cenoscopically conceived), but rather the irreducibly cenoscopic science of semiotics as the doctrine of signs, is this development: that Aristotle's triangle, presented in his *De Interpretatione* as emblematic of psychology as the "science presupposed" to logic, quite disappears. For the sign, Poincot has shown, considered in its proper being as sign, is neither an object nor a thing, but a relation irreducibly triadic, inasmuch as it is by *one single relation*, not two or any combination of twos, that the sign through its vehicle attains both *directly* its signified and *indirectly* its interpretant. All three—sign vehicle, object signified, interpretant—are thereby together unified under or through the one single triadic relation "constituting the mode of being of a sign," as Peirce put it,¹⁶² and this triadic relation "is the proper and formal rationale of the sign," as Poincot put it.¹⁶³ (Or, as Ketner, not glossing over the interpreter/interpretant distinction, summarized:¹⁶⁴ "A sign is the entire triadic relation whereby Something is represented by Something to Something.")

Thus, when Poincot comes directly to treat of the very text, *De interpretatione* 16a3–8, which Aristotle opens with the presentation of his "words, things, passions" triangle,¹⁶⁵ Poincot does not so much as mention a *triangle* image but passes

¹⁶¹ Within "ordinary language," that is exactly how "sign" tends to be conceived: we look up a term in a dictionary (sign as "word") and find there its meaning ("what the word signifies"). Completely hidden in the background to success in such a case is precisely the *interpretant*, which in this case is the habit-structure of one who knows the language in which the term is expressed and the dictionary is written, completing the triad essential to every actual achievement of "signification."

¹⁶² Peirce 1904: cp. 8.332.

¹⁶³ 1632: *Tractatus de Signis* Book I, Question 3, 154/28–29.

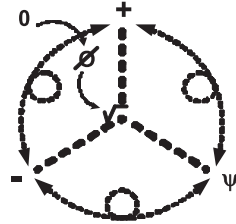
¹⁶⁴ Ketner (1995, p. 32).

¹⁶⁵ Poincot 1632: Appendix A, "Whether vocal expressions primarily signify concepts or things," 344/1–351/40. The fuller treatment, i.e., the general point that signification consists in a triadic relation in all cases, not just the case of linguistic communication as species-specifically human, remains of course Poincot 1632: Book I, Question 3, "Whether the relation of sign to signified is the same as the relation of sign to cognitive power."

Fig. 2.1 Two-dimensional representation of a semiotic triad



Fig. 2.2 Merrell’s tripod



directly to the *triadic point*¹⁶⁶ that “voces unica significatione significant res et conceptus,” and “res principalis.”¹⁶⁷ So it turns out that, when analyzed in semiotic terms, the sign is a triad but not a triangle properly speaking, even though the sign is commonly presented as such¹⁶⁸ simply because it involves three terms.

In fact, the question of how properly to represent the triadic sign relation, with or without recourse to triangles, is a puzzling one. I have so far been able to find only two, and both have their drawbacks. (Figure 2.1. in a 3-dimensional version might be needed, as enabling the Interpretant to be represented on a *different level* than the sign vehicle and its significate.)

The first representation is as what might be (and commonly has been, including by me) *misconstrued* as a “pre-triangle”—a figure that *would be* a triangle did it but have one more side—except for the (slight detail) that the “missing side” is *essentially* lacking (Fig. 2.1). The problem, thus, is to represent *not* a triangle, but rather a *triad* which, like a triangle involves three “points” or “terms” but, unlike a triangle, does not have the three bilaterally connected, but connected rather by “one single relation which attains the second term directly and the third term indirectly” via the second.

¹⁶⁶ *Ibid.*, 345/9–10.

¹⁶⁷ “nisi forte ipsa res significata sit conceptus vel eius intentio”—*Ibid.*, 349/39–40. (the case of reflexion).

¹⁶⁸ e.g., Blunden 2005/2006: 4 of 14 (in PDF download from <http://home.mira.net/~andy/works/semiosis.htm>), where he rightly states that “The basic schema of semiosis is the triadic relation,” but then immediately diagrams it as a series of dyads in triangular formation, exactly as if to instantiate Merrell’s repeated objection to the triangle representation of what is not triangular but triadic. Both involve three terms, yes; but both cannot be constituted from some combination of dyads; only the triangular (mis)representation allows for that. My own frequent use of triangular representations throughout *Basics of Semiotics* (Deely 1990 and after) is material, rather than formal, in that the irreducible triadicity of the sign is the formal point of the text as a whole repeated throughout its parts. The triangle as a representation remains materially convenient, if formally inadequate on its own terms.

The second representation is as what might be considered, for want of a better name, a tripod, but a tripod—“Merrell’s Tripod,” let me call it¹⁶⁹—lacking a central connection as necessarily positive in the juncture of its “legs” (Fig. 2.2 above).

It is as if we have to choose between a triangle with a missing side, and a tripod with a missing central connective. I will argue in a moment that this “*missingness*” is the strength of each of the diagrams. But first let me cite, in part at least (for one would have to gather many and lengthy passages from Merrell’s writings to get a full grasp on his understanding of this “tripod”), an explanation for Merrell’s basic preference for some version of Fig. 2.2:¹⁷⁰

The problem is [with any] Figure [that]... still appears to be of bivalent orientation [such as we find in Saussure’s *signifiant/signifié* model]. On the surface there is no more than a one-dimensional line severing a two-dimensional plane. In contrast, Fig. 2, if construed as a tripod, offers a three-dimensional topological field. [I]t seems to me that with [this second figure], Firstness is poised to enter into signhood as something that is interdependently interrelated with something else for someone or something in some respect or capacity. So the diagram is the bare beginning of a sign. It is a pre-sign, so to speak, the possibility of an actual concrete sign. I would suggest that the Firstness of this pre-sign, when emerging into mindfulness, can take on its own Secondness, and then mediating Thirdness emerges. In other words... Signhood. And the process continues, without end.

On this accounting, Floyd’s tripod amounts to a version of what I have diagrammed rather as the “semiotic spiral”¹⁷¹ (of abductions, deductions, and retroductions¹⁷² through which experience is constituted and by which it develops, indeed, from conception to death), but one which properly centers the process on “signhood” as a constantly emerging form of being ever new.

But emerging whence, emerging from where? And this question leads me to what I regard as the strength of both diagrams, namely, the “missing” elements—be it the “triangle” with only two sides, or the “tripod” with no connecting center: the explicit incorporation of *nonbeing* into the representation of sign.

¹⁶⁹ As Floyd Merrell explained in the email accompanying the attachment of Fig. 2.1 as reproduced here (essentially the same as the Fig. 2.2 in his Sebeok Fellow Address 2006, p. 4): “I think tripod is necessary, since its three-dimensional and the dimensions of time we live in are three-dimensional, which is no mere coincidence, given the categories, three in number. The ‘psi’, as well as +, -, square root of the central point, the empty set, and zero, would require pages to account for. ... As for the ‘missing central connective’, that’s the reason for and the function of the square root at the central point of the tripod, about which the plus and the minus and the ‘psi’ symbols ‘oscillate’ (to create what you call a ‘spiral’), and it is fed by the empty set and zero, or what Peirce called ‘nothingness’, or Buddhist ‘emptiness’.”

¹⁷⁰ Merrell (2006 p. 4), and (2004, pp. 268–269). The situation of the sign as tripodically diagrammed, as Merrell says, is “more complicated, infinitely more complicated,” than the bare diagram suggests; so let me share with the reader “a few sources of the gyrating, spiraling, swirling and swiveling ‘tripod’”: Merrell 2000, 2007, 2007a, 2008, 2008a, 2008b.

¹⁷¹ Deely (1985b, p. 321; 2001b, p. 28; 2003a, p. 164; 2004b, p. 10; 2009c, p. 210).

¹⁷² On the terminology here as I employ it, especially regarding this term “retroduction” used here in what amounts to a coinage, see Deely (2009c, p. 209) text and note 9. In brief summary: abduction=getting an idea from experience of things; deduction=seeing or drawing out the consequences of an idea; retroduction=returning to things to verify or disprove the consequences of a developed idea.

A little noted, yet decisively important, feature of the action of signs is that signs provide the only example of causality which functions equally in absence and in presence, the only instance of causality between terms which need not all exist at the time of, and in order to complete, the sign action. Poinsoot, one of the few so far to address directly the causality proper to the action of signs,¹⁷³ explains the element of nonbeing in semiosis as arising from the very nature of the triadic being proper to signs as relations: relations cannot be directly affected or changed except indirectly, by changing the objects or things related, whence the change in relations between them follows. So signs, insofar as consisting in relations, are powerless directly to affect outcomes except through their vehicles and significates acting under the relation of signification which makes them to be what they are, not in themselves, but in *the position they occupy* under the triadic relation of what Merrell felicitously terms “signhood.”

This indirectness and dependency upon changes or actions in the order of secondness also explains how and why signs as instantiating thirdness typically exhibit an *influence of the future* within the present, altering the relevance of past events and presaging—but all only indirectly, and without strict necessity—“what is to come” out of what has been and is.¹⁷⁴ This singularity of semiotic causality, then, springs directly from the singularity of relation itself as suprasubjective, which makes semiosis possible in the first place. Actual semiosis as thirdness may occur only “in the land of the living,” but a semiosis virtual and exercised intermittently, like the flaring of a match which does not hold its would-be flame, in raising the physical universe itself from a condition of lifelessness toward the possibility and finally the actuality of life, like the flaring of a match which does not hold its would-be flame, results from this same element of “nonbeing” embedded at the heart of semiosis as a distinctive causal process at work within, entangled with, the “efficient” productive forces of brute secondness.

In the case of evolution, for example—not only biological evolution, but that prior and compassing cosmic evolution which biological evolution presupposes in order for life to have become possible in the first place—secondness provides and explains that element of chance and selection at work as a *vis a tergo* in the whole of evolution. But only thirdness, whether intermittent and virtual (“degenerate”) in inorganic nature, or actual and quasi-constant in the vegetative world, or actual and constant in the world of animals (“genuine” and complete, as it were), provides that *vis a prospecto* which we experience as “meaning” in whatever form, fictional or real, delusional or provisional.

Thus, no matter how you look at it, the discovery (or realization) of semiosis at the heart of meaning and the thematization of semiosis as semiotics constitutes a revolution at the heart of intellectual culture, and presents a challenge for rethinking the institutionalization of academic life in our universities. This challenge is the equal and counterpoint to the challenge that ideoscopic science presented to the exclusively cenoscopic thinkers of the medieval universities, as I have pointed out above. Aristotle’s triangle may have been inherently presemiotic, but viewed semi-

¹⁷³ Poinsoot 1632: *Tractatus de Signis* Book I, Question 5, “Whether to signify, formally considered, is to cause something in the order of productive causality,” 193/1–203/32, esp. 194/30–197/17. See also Deely 2009j or e: “The full vista of the action of signs,” 233–275, esp. Sect. 4.3, pp. 261–269.

¹⁷⁴ Cf. Williams 2009.

otically it at least shows us the elements that have to be synthesized in order to understand what signs are and how they act. For the three poles of the triangle at least, in contrast to the three “sides,” have each an involvement with thirdness. While not themselves a triad as such (i.e., as the separate poles of a triangle), yet each of these poles itself covertly contains the three triads from which anthroposemiosis constantly emerges: words, which as material signs presuppose triadic relations in the context of society and culture; thoughts, which as psychological states cannot exist without giving rise to triadic relations within firstness; and things, which cannot be as known except as signifieds derived from objects which themselves as such (i.e., as apprehended) belong directly to thirdness, beyond (and even within) sensation (*sentire* prescissively distinguished from *phantasiari* and *intelligere*) inseparable from brute secondness.¹⁷⁵

2.4.11 Aristotle’s Triangle of Triads

Aristotle’s is not a semiotic triangle, but presemiotic. In fact, it turns out that there is, strictly speaking, no such thing as a semiotic *triangle*, if we understand the difference between a *triad*—which has three terms under one single relation, indeed, but never as such three “sides” (three bivalent relations each reducible to dyadicity, whether one-sided¹⁷⁶ or reciprocal¹⁷⁷)—and a *triangle* as an irreducibly three-sided figure. Yet Aristotle’s triangle, that ancient triangle proposed in the early light of philosophy’s ancient dawn, in what it has accomplished in provoking thinking in the direction of an eventual semiotic consciousness over the long centuries of the semiotic animal’s slow-by-slow development of an ever fuller “self-awareness,” may well be taken now to symbolize the work that lies ahead in the fields of academia for the semiotic community, inevitably pushing philosophy as the basic cenoscopic science toward assuming its proper place in the “core curriculum” as integrative of the intellectual culture of the postmodern university.

Semiotics, an intellectual phenomenon mainly of the twentieth century as regards its actual formation as a community of inquirers, we are now coming to realize is no less than the dawning of a new era of intellectual culture, a global era marked (thanks to semiotics) by a noetic renewal beyond the *ne plus ultra* of the modern epistemology systematized by Kant. Semiotics launches postmodernity as a new epoch of philosophy itself understood finally as a cenoscopic, not an ideoscopic, science, one itself—like all the sciences—born out of the action of signs, the doctrine, or thematized investigation and understanding of which, we call today “semiotics.”

¹⁷⁵ On this last point, that “object signified” says redundantly what “signified” or “significate” says sufficiently, and that “object” is a disguised and, historically at least, normally misleading way to speak of signifieds, read *Purely Objective Reality* (Deely 2009d).

¹⁷⁶ As in the case of words to passions looked at one way as *symbola*, yet looked at another way as *semeia* symptoms; or of words to things as *symbola*, respecting which reciprocally the things themselves directly “say nothing.”

¹⁷⁷ As in the case of the things themselves, which “say nothing” to the words directly but speak loudly, indexically and iconically, in reciprocity with the passions.

2.5 Parting Summation

That is how I project the diachronic development within the synchronic perspective in which the twentieth century became the *locus* for the establishment of the foundations for the twenty-first century’s continued development and expansion of the community of inquirers focused on the action of signs. I project this development out to the year 2075 or so; but of course, those who will be able synchronically to judge of my projection, while it will include some now living but rather young, it will not include me or my contemporaries cited in the pages above, any more than Sebeok or Saussure has been able to comment on my “view as of 2015.” For whatever the far boundary of my own synchrony within the larger diachrony of semiotics, it cannot be *that* distant. “Time will tell.”

Appendix: Sebeok's Synthesis (the Tartu–Bloomington–Copenhagen School)

Juri Lotman (28 February 1922–1993 October 28), a suspect figure for the Russian authorities of the Soviet era, is the single most prominent figure of so-called Soviet semiotics, and the principal theorist of the Saussure-oriented “Tartu–Moscow School” of semiotics, with its idea of linguistic communication as the “primary modeling system” through which alone access is provided to the world of culture as the “secondary modeling system.”

In the purview of this school, biology has a background rather than a central role (see Ivanov 2008—still, that is a considerable improvement over Saussure's own views, and perhaps explains Sebeok's determined interest in meeting Lotman personally); so it must be said that the “Tartu–Moscow School” in its original formation and development belongs determinately to what Sebeok identified as the “minor tradition” of semiological analysis within semiotics as the complete doctrine of signs or “major tradition” (Deely 1986). (Kalevi Kull, in an email dated 12 June 2009, has pointed out to me an important detail concerning Lotman's position within semiology: “a change can be dated to 1982, when Lotman read Vernadsky's work on biosphere and as a result coined his term ‘semiosphere’. In the same year he attended a conference on theoretical biology, which also gave him ideas to turn toward a more organicist approach. This in its way has enhanced the following biosemiotic developments in Tartu.”) By “major tradition,” of course, Sebeok meant an understanding of signs in terms of their proper being as triadic and operative not only throughout the cultural world but also throughout the natural world as prior to, independent of, and influenced by culture.

However, there was an earlier Tartu scholar, a “cryptosemiotician” (that is, a late modern thinker involved with but not thematically aware of the doctrine of signs, still a prisoner theoretically of the solipsist epistemology of modern philosophy) named Jakob von Uexküll (8 September 1864–1944 July 25), who, with his theoretical and experimental explication of the *Umwelt*/*Innenwelt* distinction, Sebeok realized, had correctly identified what is truly the *primary* modeling system for the animal kingdom as including human beings. This primary modeling system, the animal *Innenwelt*, required only a distinctive adaptation to provide the root from which and basis upon which linguistic communication as an *exaptation* could be established as the species-specifically human avenue to the development of culture as yet a third-level modeling system transforming the animal *Umwelt* confined to awareness of objects in relation to the animal into a *Lebenswelt* open to an exploration of objects not only in relation to ourselves as animals but also as being “things in themselves” sometimes mind-dependent, sometimes mind-independent, but typically (and certainly initially) a combination of both.

With this remarkable synthesis, Sebeok achieved nothing less than a theoretical revolution within the development of the doctrine of signs, one which has proved to be the main foundation for the development of semiotics in the twenty-first century. Sebeok's

synthesis brings the minor tradition “Tartu–Moscow School” into the mainstream of semiotic development, but the old name fails completely to manifest the revolution.

In the first place, Jakob von Uexküll has no association at all with the original name, despite the fact that his *Umwelttheorie* was developed exactly while he was associated, as would later be Lotman, with the Tartu University. In the second place, the old name embodies a commitment to the Saussurean dyadic model of sign in exactly the sense that the Peirce–Locke–Peirce tradition (the “major tradition,” as Sebeok pointed out, because it is the only tradition squarely based on the model of sign recognizing the irreducibly triadic character of semiosis as following upon the relational being of signs as such) had shown to be incompatible with the full extent of semiosis.

Beginning with Sebeok’s own introduction of the notion and term “zoösemiotics” in 1963, followed by Krampen’s proposal of “phytosemiotics” in 1981, semiotics by the turn of the century had definitively established the inadequacy of an exclusively linguistic or cultural model, and laid the foundations for the fuller development of today’s biosemiotics, centrally spearheaded by work of Jesper Hoffmeyer (1993, 1996, 2000, 2002a & b, 2008a & b), and the “epilogue” to this present volume), among others.

Thus, when we assimilate the work of von Uexküll to the name “Tartu,” and view the work of Lotman no longer in the exclusively semiological terms in which it was originally cast but as assimilated now rather to the mainstream Peirce–Locke–Peirce development as distinctively *postmodern* in the synthesis achieved by Sebeok, and particularly when we take into account the biosemiotic development with its center in the work of Danish semioticians, we should speak now of the “Tartu–Bloomington–Copenhagen School” as the major development within the major tradition whereby the action of signs becomes conscious of itself and of its role in the universe as a whole through the metasemiosis species-specific to human animals as *semiotic animals*. These are the only animals which not only use signs but also recognize that the being of signs involves but does not reduce to anything sensible, consisting rather in the invisible spiral of interweaving triadic relations which turn things into objects and objects into signs in creating that path which “leads everywhere in nature” (Emmeche 1994, p. 126)—including where human beings have never set foot.

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John Deely is Professor of Philosophy at the University of St. Thomas, Houston, Texas. He is the author of a complete history of philosophy from Thales to the Present, *Four Ages of Understanding* (University of Toronto Press, 2001), which defines the term “postmodern” by tracing the development of semiotics within the whole of philosophy from its ancient beginnings to the 21st century. Together with Thomas A. Sebeok, he was a founding member of the Semiotic Society of America, for which he developed the “historical layering” SSA Style Sheet (i.e., requiring use of “source dates” from within an author’s lifetime, together in contrast with “access dates” from posthumously published editions), used in the SSA Annual Proceedings volumes and *The American Journal of Semiotics* (TAJS). Deely’s many publications cover contemporary problem-areas in philosophy and the history of philosophy, particularly the development of the doctrine of signs or “semiotics”. The corrected 2nd edition of Deely’s bi-lingual presentation of Poinson’s 1632 *Tractatus de Signis. The Semiotic of John Poinson*, which was the featured volume in the *New York Time Book Review* of 30 March 1986, has just been published by St. Augustine’s Press (South Bend, IN; Spring 2013).

Chapter 3

Maps, Diagrams, and Signs: Visual Experience in Peirce's Semiotics

Vitaly Kiryushchenko

It is a well-known fact that during the last years of his life, especially through the 1900s, Charles Sanders Peirce struggled to formulate a full-fledged proof of his pragmatism. One of the ways he thought he could do this was by reconciling the pragmatic maxim with his theory of signs. The question, in this case, was how to justify the two facts: On the one hand, that the meaning of a concept is not any sort of platonic entity but rather consists in conceivable practical outcomes of our interaction with the object of this concept; and, on the other hand, that sign is something which stands for something else for someone in some respect or capacity. According to Peirce, these two definitions (of meaning as the sum total of practical consequences of actions it presupposes, and of sign as triadic entity) had to be translatable into one another (Peirce 1992–1998EP2, pp. 398–433).

Peirce attached extreme importance to this task, as he believed that such reconciliation would allow him to incorporate the two parts of his philosophy (pragmatism and semiotics) into a unified architectonic framework, thereby also connecting his normative theory with his evolutionary metaphysics and doctrine of categories.

A decade earlier, by the end of the 1890s, Peirce introduced a system of diagrammatic logic, which he called “Existential Graphs” (Peirce 1931–1958, CP. 4, pp. 347–584). In the very basic sense, Peirce understood diagram in general as anything at all having its parts in relations that resemble relations among the parts of some different set of entities. Accordingly, a diagram is, essentially, a sort of *mapping* of one group of relations onto another. In the case of existential graphs, the diagrams are designed as picture-like expressions of relations inherent in thinking. Being expressed diagrammatically, thought process appears to be interpretable into a set of continuous moves in the form of constantly transforming pictures. In other words, the graphs displayed not a linear succession of syllogistic structures and forms of thought but the very *process of thinking*, its machinery, thinking *in actu* (Peirce 1931–1958, CP. 4, p. 6). And it is probably for this reason that Peirce called his graphs “moving pictures of thought” (Peirce 1931–1958, CP. 4, pp. 8–11):

V. Kiryushchenko (✉)

National Research University—Higher School of Economics, St. Petersburg, Russia
e-mail: vitaly.kiryushchenko@fulbrightmail.org

Dealing with the graphs, one can actually *observe* a given argument, visualized by graphic conventions, as a number of continuously transforming pictures. In short, such graphic language allows us, as it were, to experience a meaning visually as a set of transitional states, where the meaning is accessible in its entirety at any given “here and now” during its transformation.

Accordingly, Peirce’s graphs have three important features: (1) by means of a predefined array of transformational rules, they are so designed to show an immediate logical continuity of thinking, (2) the transformational rules are devised not as any sort of “deep grammar” but as a purely surface structure, (3) all the conventions Peirce applies are graphic expressions; they are shown for what they are, being not separated from what they actually convey. In other words, the logical form of every graph appears to be an integral part of a given picture. Every graph conveys information and simultaneously explains how it is being done. In this case, *seeing something* and *understanding how it works* are the same process; *what* is stated and *how* the statement is made are actually expressed in one and the same act—which is to say that the logical form of an argument cannot be considered a metalanguage in relation to its content, because it is revealed as a part of this content.

Indeed, because Peirce’s pragmatic maxim was conceived by him as, in a way, an expression of his theory of meaning that provides a conceptual link between thinking and doing, it is not surprising that by the mid-1900s, he began considering his graphic logic to be but one of the attempts at proving his version of pragmatism. It is obvious, then, that for Peirce, the possibility of visual representation not only of linguistic but also semiotic relations, in general, was essential for making the most of his pragmatist approach to meaning.

“Prolegomena to an Apology for Pragmaticism”, one of Peirce’s papers on graphs, begins with the following imaginary dialogue, which reveals an important comparison between *diagrams* and *maps*:

“But why do that [use maps] when the thought itself is present to us?” Such, substantially, has been the interrogative objection raised by... an eminent and glorious General.

Recluse that I am, I was not ready with the counterquestion, which should have run, “General, you make use of maps during a campaign, I believe. But why should you do so, when the country they represent is right there?” Thereupon, had he replied that he found details in the maps that were so far from being “right there”, that they were within the enemy’s lines, I ought to have pressed the question, “Am I right, then, in understanding that, if you were thoroughly and perfectly familiar with the country,...no map of it would then be of the smallest use to you in laying out your detailed plans?” “No, I do not say that, since I might probably desire the maps to stick pins into, so as to *mark each anticipated day’s change* in the situations of the two armies”. “Well, General, that precisely corresponds to the advantages of a diagram of the course of a discussion.... Namely, if I may try to state the matter after you, one can make exact experiments upon uniform diagrams; and when one does so, one must keep a bright lookout for unintended and unexpected changes thereby brought about in the relations of different significant parts of the diagram to one another. Such operations upon diagrams, whether external or imaginary, take

the place of the experiments upon real things that one performs in chemical and physical research". (Peirce 1931–1958, CP, 4, p. 530)

The diagrams, then, are *maps* of thought, which may be used "to stick pins into" in order to mark anticipated changes.

There is one more analogy to such visual interpretation of communication: The analogy between, on the one hand, Peirce's idea of triadic relations and their generative function and, on the other, chemical valences. This analogy is well known and thoroughly studied (Parker 1998; Roberts 2009; Samway 1995). More specifically, for instance, the theory of valences is at the core of Peirce's phenomenology, or "phaneroscopy".

However, one aspect of this analogy is rarely mentioned; namely, it is the very nature of the metamorphosis which had taken place in chemistry from the mid-1840s to 1860s and which was triggered by the formulation of the chemical-type theory. The new idea that the type theory and, later, the theory of valences brought about was that chemical compounds could be studied not as mixtures of actual substances but as relational pictures, or, visual, diagrammatic schemes. Chemists discovered that the relational structure of a molecule and transformations of chemical compounds could be *depicted* in a certain way, with the use of rather simple graphic conventions. Thus, the idea of valences gave birth to the language that actually provided the visual projection of the inner life of nature. Just as in the case of Peirce's graphs, the grammar of this new language was a part of the surface; and *how* a meaning is formed was a part of the meaning itself. Every such diagrammatic message says something and, simultaneously, shows how it is to be read.

Again, in the very beginning of the 1900s, in 1902, Peirce wrote an entry on the concept of "virtual" for Mark Baldwin's *Dictionary of Philosophy and Psychology*. This entry, concise as it is, also may be considered as a corollary of his later attempts at the proof of pragmatism. In the dictionary, Peirce gave the following definition of a virtual object:

A virtual *X* ... is something, *not* an *X*, which has the *efficiency* (virtus) of an *X*. This is the proper meaning of the word; but (2) it has been seriously confounded with "potential", which is almost its contrary. For the potential *X* is of the nature of *X*, but is without actual efficiency. A virtual velocity is something, not a velocity, but a displacement; <it is> equivalent to a velocity in the formula, "what is gained in velocity is lost in power". (3) Virtual is sometimes used to mean pertaining to virtue in the sense of an ethical habit. (Baldwin 1902, p. 763)

According to this definition, any sign is obviously a virtual unit in so far as its meaning ultimately lies not in any sort of abstract idea or mental copy of its object but in its object's conceivable practical applications (or, in other words, in certain habits of conduct it would produce, given the occurrence of such and such circumstance, fact or event). Consequently, any belief caused by a sign or signs always has some sort of pragmatic content and is consistently interpretable as both an intelligible object and a source for action. Thus, it appears that the concept of virtuality provides an important link between Peirce's late pragmatism and his mature semiotic theory.

It might also be worth paying attention to the fact that, in Peirce's case, the importance of visual experience extends beyond the bounds of purely theoretical con-

cerns, and has intriguing implications in terms of his personal intellectual habits. In fact, Peirce was quite an eccentric character in more ways than one. In particular, he seemed to believe in specific interconnectedness of certain peculiarities of his own personality—some of which he himself considered quite unusual. Moreover, he actually tried to find some sort of theoretical explanation of this interconnectedness.

Among these personal peculiarities, Peirce laid special stress on his quite early-discovered disposition toward diagrammatical thinking; that is, as he himself confessed on many occasions, he had a habit of thinking by means of pictures, mappings, and diagrams rather than linguistic units. He was inclined to attribute this capacity to his mathematical mindset: He thought mathematical thinking essentially to be an interplay of schemes, maps, and images—which is significant considering the fact that Peirce’s family had three mathematicians, including Peirce’s father and his older brother James Mills (both professors at Harvard).

Peirce deeply believed in not only the mathematical but also the logical advantage of a diagrammatic and picture-like way of expression over ordinary writing. Visual, iconic experience, in short, was to him at the core of linguistic competence—to the extent that he thought diagrammatic logic should be taught in schools before grammar of any natural language (Peirce 1931–1958, CP. 4, p. 619). On the other hand, Peirce was left-handed, and he also often blamed his left-handedness for his incapacity of linguistic expression. Again, being “left” meant, for him, being a capable logician. He also persistently referred to his inability for ethical self-control and his general disposition against social conventionality—which he, again, blamed, in part, on his leftism. In one of his letters to the mathematician Cassius L. Keyser, he wrote:

But I am left-handed; and I often think that means that I do not use my brain in the way that the mass of men do, and that peculiarity betrays itself also in my ways of thinking. Hence, I have always labored under the misfortune of being thought “original”. Upon a set subject, I am likely to write worse than any man of equal practice (as quoted in Brent 1993, p. 43).

And, in 1909, in a letter to Victoria Lady Welby, Peirce wrote:

...as a boy I invented a language in which almost every letter of every word made a definite contribution to its signification. It involved a classification of all possible ideas; and I need not say that it was never completed.... The grammar of my Language was, I need hardly say, modeled in a general way after the Latin Grammar as almost all ideas of grammar are to this day. It had, in particular, the Latin parts of speech; and it never dawned upon me that they could be other than they are in Latin. Since then I have bought Testaments in such languages as Zulu, Dakota, Hawaiian, Jagalu, Magyar (Basque I have dipped into otherwise; and I learned a little Arabic from Edward Palmer whom I knew in Constantinople and later in Cambridge). These studies have done much to broaden my ideas of language in general; but they have never made me a good writer, because my habits of thinking are so different from those of the generality of people. Besides I am left-handed (in the literal sense) which implies a cerebral development and connections of parts of the brain so different from those of right-handed people that the sinister is almost sure to be misunderstood and live a stranger to his kind, if not a misanthrope. This has, I doubt not, had a good deal to do with my devotion to the science of logic. Yet probably my intellectual left-handedness has been serviceable to my studies in that science. It has caused me to be *thorough* in penetrating the thoughts of my predecessors—not merely their ideas as they understood them, but the potencies that were in them. (Hardwick 1977, pp. 95–96)

Further, Peirce's late diaries give clear evidence that he had considerable interest in different theories of natural conditions of criminality, popular among lawyers at the time, a particular example being Nicholas St. John Green, one of the members of Cambridge Metaphysical Club (see, for instance, L 218, Peirce's letter to the editor of *The Independent*, 05/04/1892). Cesare Lombroso, one of the founding fathers of modern criminalistics, was one of Peirce's favourite authors. In addition to all the aforementioned, Peirce had a habit of severe and constant self-analysis. In one of his letters to William James, Peirce wrote that "I have been forced to study myself until I have become a devoted *seautonologist*" (MHFC, Peirce to James, 07/16/1907).

As Joseph Brent writes in his Peirce biography, Peirce was able to use both of his hands in writing simultaneously. That is, he was able to shock his students by writing on the blackboard, ambidextrously and simultaneously, a logical or mathematical problem and its solution (Brent 1993, p. 15).

Although logic and mathematics both rely upon diagrammatic thinking, Peirce saw a clear distinction between them. This is what he wrote, c. 1906, on the difference between the two:

The distinction between the two conflicting aims [of logic and mathematics] results from this, that the mathematical demonstrator seeks nothing but the solution of his problem; and, of course, desires to reach that goal in the smallest possible number of steps; while what the logician wishes to ascertain is what are the distinctly different elementary steps into which every necessary reasoning can be broken up.... In short, the mathematician wants a pair of seven-league boots, so as to get over the ground as expeditiously as possible. The logician has no purpose of getting over the ground: he regards an offered demonstration as a bridge over a canyon, and himself as the inspector who must narrowly examine every element of the truss because the whole is in danger unless every tie and every strut is not only correct in theory, but also flawless in execution. But hold! Where am I going? Metaphors are treacherous—far more so than bridges... (MHFC, Fragment on logician and mathematician, c. 1906)

So it appears that a person who has both a logical and a mathematical mindset, both intellectually and psychologically, is apt to experience a significant tension between these two extremes: of mathematical insight and of logical meticulousness.

In his early diaries and in his family correspondence, Peirce frequently used the words "fast" and "pedestrian" as two self-characteristics. In spite of the evidently high value Peirce attached to them, the meaning of the latter remains unclear and the meaning of the former is not stated at all. But the very character of their use affords the assumption that they describe certain *logico-mathematical* way of thinking—one that allows the two corresponding qualities to coexist. A thought is "fast" not owing to the fact that it has the nature of intuition but to the fact that there is something genuinely anti-hermeneutic about it—in the sense that mathematical understanding is not so much a desirable *result* as it is a necessary *condition* for a dialogue. And logical pedestrianism is a form in which the "fastness" is at work. Given the attention Peirce, as a logician, paid to terminological continuity, this pedestrianism is likely to refer to the Aristotelian *περιπατητικός*. In other words, the case at hand is a fast intellect making use of *leisure* in the Greek sense of the word—that of activity undertaken for its own sake. In Peirce's case, the search for continu-

ity between these two extremes resulted in mathematically grounded diagrammatic logic—his existential graphs.

This distinction remains valid in case of Peirce's father as well, and for good reason. Numerous letters clearly show that Benjamin Peirce exerted an immense influence on both Peirce's intellectual development and his worldly habits. And, like his son, Benjamin Peirce was a highly unusual person. The incomprehensibility and hermetic character of his lectures at Harvard were the subject of many legends and anecdotes. As one of his colleagues once wrote:

...his intuition of the whole ground was so keen and comprehensive that he could not take cognizance of the slow and tentative process of mind by which an ordinary learner was compelled to make his step-by-step progress. In his explanations he would take giant strides; and his frequent "you see" indicated what he saw clearly, but that of which his pupils could get hardly a glimpse. (Cajori 1890, p. 139)

Thus, visual, diagrammatic thinking, mathematics, left-handedness, difficulty with written language, unconventional behaviour, the nature of logic in general, and the model of perfect language in particular—all these things in Peirce's case were closely connected to each other, composing, as it were, a kind of personal Gordian knot which he craved to untangle.

However, apart from vicissitudes of and interconnections between life and theory—and keeping in mind Peirce's notion of virtuality, as well as the importance (both personal and theoretical) he attached to diagrammatic representations—we may also, curiously enough, find some hints of affinity between the two parts of his philosophical doctrine in his early activities as a practical scientist.

Peirce's careers as a scientist and an academic philosopher overlapped in 1879—that is, of course, if it is at all possible to talk about any *academia* at that time, given that there were no professional journals and the only university in the European sense in the entire country was Johns Hopkins. However, Peirce started teaching at Johns Hopkins that year, while continuing his research for the United States Coast and Geodetic Survey. Just prior to his appointment, in May, he published a short paper in the *American Journal of Mathematics* describing his new map projection, which he called "Quincuncial".

The name of the map comes from two Latin words: *quinque* and *uncia*, standing for a Roman coin that contained 5/12th of Roman bronze libra (lb., one pound) and on which the bronze content was signified in the same way that number 5 is signified on a die. (Incidentally, it is also noteworthy that just after Peirce's appointment at Johns Hopkins ended, in the mid-1880s, Peirce became a member of several commissions on weights and measures and collaborated with the US Mint in Denver and Philadelphia).

In his letters, Peirce acknowledged that the idea of his projection was inspired by the work of a German mathematician, Karl Hermann Schwarz (1843–1921), known for his studies in complex analysis. And Peirce's map, in fact, was one of the first maps of the kind, created with an application of the theory of functions of a complex variable.

Peirce's map is a transformation of conformal (or orthomorphic) stereographic projection. It is similar to other conformal projections in that it preserves the angles



Fig. 3.1 Stereographic projection

at which curves cross each other throughout the entire face of the map, except at the corners, where conformability fails. It also shares one principle feature with standard stereographic projection; namely, one of the poles in this map is situated in the centre, while another one is at infinity, i.e. is distributed in an infinite number of points along the perimeter of the map. At the same time, Peirce's map deviates from standard stereographic maps in two respects. First, its segments are arranged not in a circle but in a square; and second, it is actually a projection not of a full sphere but only of *hemisphere*, where the other hemisphere is split into four triangles surrounding the equator, which is represented on the map as a smaller square inscribed in the bigger one. Further, this map can be tessellated by iteration of its parts, with each copy's features exactly matching those of all its immediate neighbours. And the tessellation may be continued in any direction ad infinitum—until we have every part and every point of the imaginary sphere connected with every other part and point. This is a principal feature of this kind of projection: Because the map has no edges, we can lay a *continuous route* of any length on it—which is not possible in the case of other projections. And it is this feature that, as will be shown, makes the quincuncial map a diagrammatic *interpretant* of the Earth's surface and a *virtual picture*—precisely in the sense which Peirce ascribed to these terms (Fig. 3.1).

If we move along the tessellated map (say, from the North Pole to the North Pole), effectively, we will make a full turn around the imaginary sphere—but we will end up at a different spot on the map; and if we continue moving along, we will, as it were, enter another spherical surface. In fact, depending on the length of the route, we wish to lay, and on how far we want to go on with the tessellation, the flat surface of the map will represent a certain *number* of surfaces of the sphere. This number will always be more than one—simply because one segment is not enough to show the interrelation of all points and parts the way it is on the sphere. Thus, the map *cannot represent the whole surface of a sphere* in any of its fragments—but it *represents a number of such surfaces as a sum of those fragments* arranged in a quincunx pattern (Fig. 3.2).

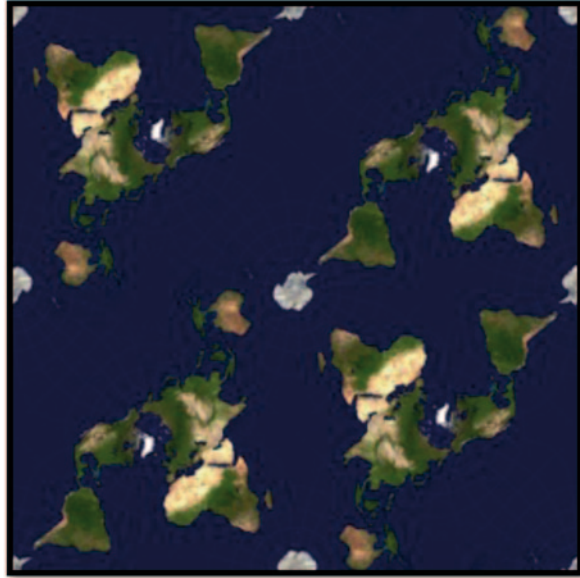
Fig. 3.2 Quincuncial map projection



Given Peirce's definition of a virtual X as "something, *not* an X , which has the *efficiency* (virtus) of an X ", Peirce's quincuncial map may be considered an intriguing example of a diagrammatic sign of a spherical representation of the Earth: That is, an example of a two-dimensional picture which *virtually is* a three-dimensional figure—precisely because it has a *virtus* of it (i.e. it *acts* like one).

Map projections convert three-dimensional objects into two-dimensional diagrams for some practical purpose, the former and the latter being objects of completely different natures—or, better stated, of two different worlds—that cannot comprehend and communicate with each other (just like polygons and spherical bodies in Edwin Abbot's nineteenth-century novel *Flatland: A Romance of Many Dimensions*). At the same time, Peirce's two-dimensional map, being different in nature from the three-dimensional object it represents, preserves some *modus operandi* of it. Namely, through its conformality and iteration of parts, it preserves the sphere's three-dimensional continuity. Again, one fragment of the map, although it includes the whole of the Earth's surface territory and represents some *qualities* of it, has essential limitations as to how a spherical representation of it may be used. Due to the tessellation, it begins to represent true *relations* between points and parts of the map. Finally, failing to represent the Earth's surface as a single object, the map grows, and at some point in its growth begins to represent this surface as a synthesis of impressions and practical outcomes: that is, as a *concept* of a spherical body, thus becoming a true interpretant of the Earth's surface (Fig. 3.3).

Fig. 3.3 Tessellated quincuncial map



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Vitaly Kiryushchenko has a PhD in Religion, Philosophical Anthropology, and Philosophy of Culture from St. Petersburg State University (2002) where he works as Assistant Professor at the State Research University, Higher School of Economics. His areas of specialty include American pragmatism, Philosophy and Sociology of Science, 20th Century Continental Philosophy. He authored the first full-length biography of Charles Sanders Peirce in Russian, *Charles Sanders Peirce: An Introduction to the Intellectual History of America* (2008).

Chapter 4

Semiotics as an Interdisciplinary Science

Yair Neuman

4.1 Introduction

When asked to explain what semiotics is, we should recall Deely's (2005) observation that semiotics is a *meta-perspective*. This observation is important as it suggests that semiotics is neither theory nor a model. A model can be considered to be a well-defined relationship between few variables. For instance, the relation between the reproduction rate of a given population of rabbits and the amount of their available resources can be modeled through logistic function taking of course into account the existence of wolves. Models exist at a relatively lower scale of analysis than a theory that attempts to represent a more complex portion of a given realm. For the semiotician, this difference is comprehensible in Peircean terms where models involve *dyadic* structures while theories *triadic* structures and beyond. Indeed, from the three-body problem in physics to triadicity in family dynamics, it is well known that as insightfully realized by Peirce, the shift to a triadic system involves a quantum leap in the complexity of the system. However, as suggested by Deely, semiotics is neither a theory nor a model. Similarly, to the idea of *meta-heuristics* in computer science, semiotics introduces a generic approach that may be widely applied for modeling a variety of phenomena from biology to computer science and psychology. The power of semiotics as meta-perspective or interdisciplinary science results from its ability to conceptualize *meaning* and *value*. To recall, for Saussure (1972), the *meaning* of a word is the "counterpart of a sound pattern" (1972, p. 112). In this sense, the meaning of the sign *cat* is its corresponding concept of cat. Saussure originally suggested that *meaning* should be distinguished from *value*; however, in its recently uncovered writings he equates meaning and value (Saussure 2006). What is "value" and what makes it central to semiotics? A value involves: "(1) something *dissimilar* which can be exchanged for the item whose value is under consideration, and (2) *similar* things which can be *compared* with

Y. Neuman (✉)

Ben-Gurion University of the Negev, 84105 Beer-Sheva, Israel
e-mail: yneuman@bgu.ac.il

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the item whose value is under consideration” (Saussure 1972, p. 113). For example, money is an abstract system of signs/values. In this system, a one-dollar bill has no meaning in itself. In contrast with some misconceptions of Saussure as a “dyadic” thinker, his concept of value definitely refutes this misconception. The value of one dollar does not result from some kind of dyadic correspondence with a platonic realm of values. The meaning of a one dollar can be determined only in a closed system of values in which triadicity prevails. To determine the value of one-dollar we should know that a one-dollar bill can be exchanged for something different (e.g., a candy bar), and that its value can be compared to another value within the same system of currency (e.g., exchanging it for Euros). In other words, a value system, a system that generates meaning is a closed and socially emerging network whose basic atoms are triadic atoms of exchange and transformation. The focus on value/meaning according to the above sense turns semiotics into the ultimate meta-perspective for studying a variety of systems in which “meaning” is the central organizing concept. However, in contrast with information theory that has been intensively applied from biology to linguistics, the promise of semiotics as a meta-perspective has not gained similar success and popularity. In this short chapter, I would like to present the power of semiotics as a meta-perspective or as an interdisciplinary science by providing concrete and hopefully convincing examples. The works cited do not pretend to be representative but express my own personal expertise and taste.

4.2 Case 1: The Immune System and the Semiotics of Recognition

The first case that I would like to discuss is the ability of semiotics to explain an important behavior of ... the immune system. The immune system is commonly described as the system that protects our body against disease and is associated in our mind with vaccines, bacteria, and viruses. The picture is much more complicated (Cohen 2000), but for now on we may leave aside the complexity of the immune system for a more “simple” question which is how the immune system identifies its enemies. To fight potentially harmful entities such as bacteria and viruses, the immune system must first recognize them as such. This recognition is deeply associated with the notion of the “immune self,” as knowing others imply self-knowledge and the ability to differentiate between self and nonself. Distinguishing between self and nonself is not limited to the immunological realm but to other biological, psychological, and cultural realms as well. Gaining such self and nonself differentiation is far from trivial and the fact that immune recognition is far from trivial is evident in a case of “friendly fire” or autoimmune disease when the immune system fails to differentiate between a friend and an enemy, and attacks its hosting environment—its own self! How does immune recognition works? The immune recognition is conducted through cellular agents such as B cells produced in the bone marrow. The B cells have an interesting structure with a molecular part known

as the *antibody* which is a receptor attaching to a potentially harmful agent—the *antigen*. According to the simple dyadic explanation of immune recognition, the system recognizes an antigen when the antigen is attached to the antibody, fits in like a key in a lock, and as a result initiates a cascade of responses that aim to eliminate the vicious intruder. This dyadic model is appealing in its simplicity but the only problem is that it does not work! There are different sorts of problems with this dyadic model of immune recognition, but it is easy to refute it through a concrete example. If immune recognition is performed through a dyadic affinity, then context should have no influence what so ever on the immune recognition. However, with amazing similarity to human language, context is a difference that makes a difference. Despite the fact that the lock and key may be the same, different contexts will produce different meanings (Neuman 2008). For instance, sperm cells are produced in the human body long time after its immune system has established its boundaries (i.e., self and nonself boundaries) and the idea of who is with us and who is probably against us. In other words, the sperm cells are produced in the human body after “immune tolerance” has been established. Given the fact that sperm cells are highly immunogenic and may cause an immune response, an interesting question is how the immune system of the male tolerates their presence. Well, in some cases it does not and a significant percentage of male infertility is caused by the immune system that attacks the poor sperm cells. However, in normal cases the system simply tolerates the presence of the new comers as long as contextual cues allow this liberalism. However, a changing context such as a kick in the groin (Neuman 2008) is a changing context in which signals of “war” are being sent from the attacked tissues of the testes. In this context, the immune system may turn to the new comers and attack them as enemies. That is, a changing context implied change in meaning. What has semiotics to do with immune recognition? As I have suggested (Neuman 2004), the behavior of the immune system is comprehensible if we consider it as a meaning-making system that is continuously involved in making sense out of signs in context. Semiotics provides us with an excellent meta-perspective for understanding immune recognition, first and foremost by explaining why the dyadic lock-and-key metaphor does not work. For the Peircean semiotician, it is clear that meaning is the outcome of triadic relations and if the immune recognition involves interpreting the meaning of biological signs then, deductively, it cannot be comprehended through a dyadic conception. What is the criterion for judging the explanatory power of semiotics for understanding immune recognition? Is it not just “name calling” when one mystery, the one of immune recognition, is substituted for another which is the semiotic terminology? This danger is always facing the semiotician who is risking his or her head in interdisciplinary research. However, beyond “name calling,” the scientific value of semiotics is evident in its ability to trigger new research questions and paths for inquiry. For instance, let us reject the dyadic lock-and-key model of immune recognition in favor of the hypothesis that this is a triadic process of meaning-making in which an ambiguous molecular structure suspected as an antigen is disambiguated in context, similar to the way ambiguous words are disambiguated in the context of a sentence. For example, the word “bass” have different senses in English. It can be for instance a bass fish or the musical instrument. From the word

itself we cannot infer the exact sense. In fact, out of context the word has no sense. However, if I am saying that I have played the bass in the jazz club then I probably played the music instrument rather than produced music by playing the fish. We cannot dismiss the possibility of a bass fish turning into a musical instrument. Theoretically, this idea cannot be excluded. We can imagine of course a comedy in which one of the actors is using a bass fish as a musical instrument in a jazz club. Nevertheless and despite the fact that we cannot theoretically dismiss this sense, real-world constraints would lead us to abduce (in the Peirecean sense) that the most reasonable sense within the given context is of bass as a musical instrument. The immunologists adopting the above analogy between sense disambiguation in natural language and immunology may ask questions such as what is the systemic array of signaling pathways that differentiates between one context, such as a context of sickness, and another context which is a context of health. In other words, he may ask what is the process through which an ambiguous biological signal is disambiguated in context. She(he) may also ask herself the following question: If autoimmune disease involves misinterpretation of biological signs, how can we help the immune system to resolve this pathologic interpretation? This is precisely the strategy that guided Irun Cohen when he developed his treatment for type I diabetes (Aldridge 2012; Cohen 2002). Although Cohen is not a semiotician his approach is clearly nurtured by the notion of sense-making as proposed by semiotics. Immunology is not the only nontrivial place in which semiotics may be powerfully used and the next section illustrates its relevance in the context of computer science and the emergence of collective intelligence out of the Web.

4.3 Case 2: From Collected Intelligence to Collective Intelligence

Intelligence has been traditionally discussed in psychology as a property of the individual, a property that can be defined and measured through a variety of psychometric tools. However, the ability to solve problems is not only a property of the individual but also of the group, whether a group of wolfs preying a buffalo or whether a group of scientists addressing a scientific challenge. Collective intelligence does not simply pop-up from a collection of agents. The appearance of “Web 2.0” illustrates this point. When the Web has undergone a phase transition toward participatory information sharing through platforms such as YouTube or Wikipedia, it was described as Web 2.0 and its defining characteristic was the one of *collective intelligence* (O’Reiley 2005). The fact that people share information does not necessarily or trivially leads to the emergence of “collective intelligence.” It was argued by Gruber (2008) that “true collective intelligence can emerge if the data collected from all those people is aggregated and recombined to create new knowledge and new ways of learning that individual humans cannot do by themselves” (2008, p. 5). In other words, in order to move from “collected intelligence” to “collective intelligence” the system should “enable computation and inference over the collected

information leading to answers, discoveries, or other results that are not found in the human contributions” (2008, p. 6). This challenge, usually discussed under the heading “Web 3.0” (Markoff 2006), is that of “representing meaning” (Davis 2008) and as such the promise of semiotics is self-evident, but how? How can semiotics help in developing Web 3.0? The idea of the mind as some sort of semiotic engine is not new and, in psychology, has been associated with the work of Vygotsky. Along the same lines the semiotic processes can be extended to the collective level of analysis, as had been recently proposed by the philosopher Pierre Levy (2012). According to Levy, the Web functions as a “semantic sphere” and a hypercontext for the collective. In this context, we may ask how can emerging technologies support the transformation from collected to collective intelligence? How can the Web turn into a hypercontext? Adopting a semiotic approach, Levy’s argument is that signs used by human being are used not only for categorizing sensory-motor experience (e.g., giving the sign “sweet” to the experience of sweet food) but also for reflecting on its cognitive operations. In other words, the power of human sign system is in its reflexivity and this reflexivity opens a potentially infinite horizon of creativity. The Web, argues Levy, extends the limit line of our understanding by proving us with a platform for reflecting on our own symbolic systems in action. It is mainly an artifact that like other artifacts that promote human intelligence (e.g., literacy) works by allowing us to reflect in a cognitively reasonable cost on the operations we conduct at a lower level of analysis. To illustrate this point, let me use a fascinating example, the one of algorithmic trading. The ancient market was governed by “simple” rules of exchange: a cow for seven goats, a bucket of apples for a bottle of wine, and so on. As insightfully recognized by Saussure, the exchange of “value” is the governing force underlying this dynamics; the exchange of value that Saussure identified in his recently uncovered writings with meaning is the underlying dynamics of ALL semiotic systems from the economy to the web. In fact, semiotics is the ultimate meta-perspective for inquiring the transformation of value and its flow in various networks of exchange. The modern stock market is governed by the exchange of value but this highly complex process of exchange is digitally represented and this is a difference that makes a difference. The difference is that some novel technologies are being used to reflect on this process of exchange in order to better use it for the further exchange of value. In the case of algorithmic trading, powerful computers harvest the huge amount of information associated with the increase/decrease of stocks in the stock markets, and by being able to predict this dynamics conduct enormous amount of transactions in a fraction of second. The computers that govern a large portion of the stock market actually create a phase transition in the behavior of the stock market. If one is interested in the dynamics of global economy, then he should throw away the old theories in which the computer had no place. This phenomenon unique to our age is so powerful and different from what we have known in the past that it calls for a different perspective for comprehending it. In fact, allegedly anachronistic semiotic ideas may perfectly handle this changing context. The “symbolic economies” mentioned by Goux (1990) are fully comprehensible within this changing landscape of value and transformations. Let me provide several examples. Let us start from meaning. Meaning is a polysemic

and loaded concept but what the current computerized stock market teaches us is that the meaning/value of a stock cannot be comprehended through a representational theory of meaning, according to which the meaning of an object is its correspondence with some mental content. The meaning of a stock is an emerging, unconscious, and dynamic product of massive human interactions which the computers reflect upon and recursively influence to the benefit of the digital merchants. In other words, the value is produced through a recursive and reflective transformation of values in which the computer as an artifact plays a major role. Increasing collective intelligence through the Web platform is therefore the implementation of old semiotic ideas in silico. Let us return now to Peirce and see how relevant one of his ideas to Web 3.0 is. The Web is composed of a vast network of entities. Let us imagine a huge semantic network which is extracted out of the net. Can we use such a network to better understand the meaning of certain concepts? This is not only a classical philosophical challenge but also a challenge with clear practical applications. For instance, let us assume that through intensive marketing, COCA COLA is trying to introduce to the market a new product which is a candy with the same taste as the popular drink. The company may want to understand the way this product is conceived by costumers. Therefore, the company may pay a programmer for building an algorithm that searches through the Web, identifies the name of the product, and extracts the textual information associated with it. The result is a huge semantic network composed of the product and its associated terms. However, this network is so dense that one may be overloaded by the trees and therefore losing sight of the forest, the general picture. Peirce's "reduction thesis" may be of high relevance for gaining a general picture of the semantic forest. To recall, in Peirce's theory of relations there are three basic types of relations that correspond to his three categories of being: firstness, secondness, and thirdness. Firstness is the "mode of being of that which is such as it is, positively and without reference to anything else" (A Letter to Lady Welby, CP 8.328, 1904/1907); it is the "qualities of feeling" (A Letter to Lady Welby, CP 8.329, 1904/1907) as expressed for instance by perceiving the red color of the cherry. Secondness "consists in one thing acting upon another" (A Letter to Lady Welby, CP 8.330, 1904/1907). It is "the mode of being of that which is such as it is, with respect to a second but regardless of any third" (A Letter to Lady Welby, CP 8.328, 1904/1907). For example, the fall of an apple from a tree and its natural attraction toward the center of the earth is modeled by a simple equation that takes into consideration the relation between the two bodies. Thirdness is "mental or quasi-mental influence of one subject on another relatively to a third" ("Pragmatism," CP 5.469, 1904/1907). It is the "mode of being of that which is such as it is, in bringing a second and third into relation to each other" (A Letter to Lady Welby, CP 8.328, 1904/1907). Thirdness is a relation in which meaning and value are encapsulated. Peirce stated that a genuine triadic relation is *irreducible* to lower-order relations. In other words, meaning cannot be reduced to dyadic or monadic relations. However, and this is the important point, the complexity of higher-order relations can be reduced to triads. In other words, any system of relations can be expressed (in principle) by the three "atoms" of monadic, dyadic, and triadic relations. Let us give a simple example. The relation of

“selling” is essentially a triadic relation. For instance, the sentence “Danny sold the book to Benny” involves a “seller” (i.e., Danny), a buyer (i.e., Benny), and the things sold (i.e., the book). We cannot imagine a situation of selling in which there is less than these three essential components. Now let us examine the following sentence: Danny sold the book to Benny for US\$300. In this case, we have four rather than three objects: Danny, Benny, Book, and US\$300. Following Peirce thesis this relation can be decomposed into two triadic relations: “Danny sold the book to Benny” and “Danny sold the book for 300 dollar\$.” Taken together, these two triadic structures perfectly reconstruct the meaning of the more complex system composed of four objects. Let us now return to the Web. Let us assume that we have a complex semantic network that we would like to comprehend. According to Peirce this complex network can be decomposed into sets of monadic, dyadic and triadic structures. For instance, we can recover sentences that the new candy is “tasty” (monadic), that “only assholes enjoy this candy” (dyadic) and that “I would not buy this candy even for a penny” (triadic). By decomposing the network into these “motifs” we may gain a lot of information and understanding about the new candy. In this way and by adopting Peirce’s semiotics we may turn the collected intelligence, the vast amount of knowledge gathered on the target term, into collective intelligence. Peirce triadicity will guide us to the third case, the one of group dynamics.

4.4 Case 3: Group Dynamics

The famous Gestalt slogan “The whole is different from the sum of its parts” is clearly applied to group’s dynamics. The behavior of the group as a collective “mind” cannot be reduced to the sum of its members. The realization that a group forms a system qualitatively different from its components presents us with extreme difficulties. Let us assume that we are psychologists trying to understand the dynamics of a malfunctioning family. The family comprises the father, the mother, their three children, and the grandparents who live next door. Assuming that some kind of pathology is present at the family level of analysis (i.e., the family does not appropriately functions as a family), how can we identify the source of this trouble? Approaching each and every member of the family may be a wrong move. In itself, each member of the family may be perfectly normal. However, a soccer team whose members are excellent players may be a horrible team and along the same line a malfunctioning family may be composed of relatively normal individuals. Foulkes, one of the pioneers in the study of group’s dynamics, “... saw the sick individual as the relatively isolated part of the organism. The organism is the social group, basically the family, from which the person derives his personality and his identity” (Pines 2000, p. 268, emphasis mine). To address the systemic aspect of group dynamics Foulkes (1964, p. 292) coined the term “matrix.” The matrix is: “... the hypothetical web of communication and relationship in a group. It is the common shared ground which ultimately determines the meaning and significance

of all events and upon which all communication and interpretations, verbal and non-verbal, rest.” This matrix is actually a matrix of signs exchange. There is no matrix without semiotic mediation and as insightfully suggested by Volosinov (1986) signs are “creatures” that live on the boundary of the individual and the collective and therefore the appropriate ladder for climbing from the individual to the collective level of analysis. A group therapist or analyst may find this theorization to be highly appealing: The group is constituted through a semiotic matrix. However, by the end of the day he may asks himself how does this “semiotic” theorization promotes him in better understanding the group’s dynamics. This challenging question should not be dismissed by pushing the burden of proof toward theorization and the ultimate test of semiotics is in vivo. The “data” of a group psychotherapist/mediator are mainly comprised of the verbal utterances produced by the group members. These utterances can be decomposed into Peircean sign relations of the type mentioned above. By decomposing the utterances into sign relations we may construct a network of signs representing the family dynamics. The question is “so what”? The group analysts may be interested in identifying meaningful patterns in the group dynamics rather than representing the dynamics as a network of signs. Here, semiotics may come to help. Peirce idea of triadic relations as a platform of meaning-making may lead us to seek triadic relations in the semiotic network. For example, the play *The Glass Menagerie* by Tennessee Williams (Williams 1988/1945) portrays an interesting family dynamics that involves a mother, her daughter, and her son. In Neuman (2011), I have analyzed utterances produced by Amanda, the mother, utterances that have the first person pronoun singular “I” as an object. Following Peirce’s thesis, I identified in the play utterances in which Amanda’s “I” is the first object that stands in a triadic relation with at least one object who is another family member. For instance, in one of the utterances Amanda is addressing her son Tom by saying “I would like you [Tom] to emulate your father.” This utterance represents a triadic relation established between Amanda, her son, and the father who deserted them many years ago. On analyzing the triadic structures found in the play, we were able to identify emerging themes with a clear psychological and diagnostic significance. This methodology has been further developed into a tool for semiautomatically identifying emerging themes in a text such as group’s dynamics (Neuman et al. 2012). This case presents a methodology that sews ideas from semiotics with clear practical problems and offers them a novel and applied solution.

4.5 Conclusions

Under the inevitable limitations of a short entry in a handbook, I have tried through three case studies to illustrate the potential of semiotics as a meta-perspective and a guiding perspective for interdisciplinary science. The sharp contrast between the success of information theory and the negligible influence of semiotics outside its traditional circles calls for a critical reflection. Why is it that semiotics failed at the same place where information theory had gained enormous success despite

the enormous difficulties associated with the concept of information? This critical reflection is not the aim of this chapter which is constructive and points at the relevance of semiotics to fields and phenomena where semiotics is not the bread and butter of the working scientists. The advancement of knowledge has the Janus face of drawing on the past while progressing toward the future. In this context, the promise of semiotics has not been fulfilled yet and therefore this chapter ends by inviting researchers to enrich their understanding through the semiotic meta-perspective.

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Yair Neuman received his BA in Psychology (Major) and Philosophy (Minor) and his PhD (Hebrew University, 1999) in cognition. He is currently a professor at Ben-Gurion University of the Negev, Israel. Prof. Neuman has published more than 70 peer-refereed papers and three academic books in fields ranging from semiotics to psychology, biology, discourse analysis, and information sciences. His expertise is in interdisciplinary research where he draws on multiple disciplinary knowledge and perspective to propose novel solutions to scientific challenges. His recent book—*Introduction to Computational Cultural Psychology* has been recently published by Cambridge University Press

Chapter 5

The Semiotic Paradigm View of Theoretical Semiotics

Charls Pearson

5.1 Abduction and Explanation

Peirce used the term “abduction” ambiguously for at least four different concepts throughout his working life. He only became aware of the full significance of this in his later years, for which he apologized profusely. One of his later uses of “abduction” was for the invention of abstract theory to explain the generals of nature and life. Peirce called this “reasoning to the best¹ explanation of the phenomena.” This is the meaning of “abduction” that the semiotic paradigm focuses on.

Theory is arrived at by abduction from a set of known laws or other generals to a set of abstract principles that explain troth the known laws, the generals, and many new laws. Abduction carries us from signs with iconic structure to signs with full symbolic structure.² This allows for the development of abstract concepts, principles, theories, and their relations. A theory has the status of a tentatively best working hypothesis that explains the known laws.

5.2 The USST

The universal sign structure theory (USST) is the main explanatory tool of the semiotic paradigm. The standard version was adopted by the Semiotic Society of America’s (SSA) Special Interest Group for Empirical Semiotics (SIG/ES) in 2000 and is therefore known as the USST-2000.³ It replaces and slightly modifies an ear-

¹ In this context, “best” should be interpreted as “best available at this time,” or “tentatively best.”

² See Pearson (1991).

³ See Pearson (2002b).

C. Pearson (✉)
American Semiotics Research Institute, Atlanta, GA, USA
e-mail: dr.charls@avillager.org

lier version, called “USST-89.” The USST is the static theory of sign structure for the semiotic paradigm, explaining the static structure of all signs. The dynamics of sign processes (often called “semiosis”) depends on the USST for determining its boundary conditions and is explained by the theory of operational semiotics (TOS), discussed in Sect. 5.3.5.

Peirce is known for his three categories: firstness, secondness, and thirdness. It is not as well known, but he derived his set of three categories four times, in four different ways, with four different sets of meanings. The first set was derived phenomenologically (see Hausman 2008); the second set was derived metaphysically (see Colapietro 2008); the third set was derived logically, consisting of monadic relations, dyadic relations, and triadic relations; and finally, the fourth set stemmed from his experimental work, as noted in his laboratory books, while running his psychological experiments.

Peirce did not spend as much time and effort in explaining his empirical categories as he did for the other three category systems, but the empirical categories are essential for the development of a rigorous science of semiotics, including semiotic theory.

The terminology adopted in this chapter stems from the empirical categories. While the terminology remains the same, “firstness,” “secondness,” and “thirdness” lose their phenomenological and metaphysical meanings and take on meanings that are determined by semiotic experiments. For instance, whereas in the first three categorizations, firstness, secondness, and thirdness in semantic structure take on the same order: icon, index, and symbol; in the empirical categorization scheme they take on the different order of index, icon, and symbol. Other changes in meaning will be obvious as we proceed.

In Sect. 5.2.1, I present the details of the USST-2000, explaining the USSD and deriving some very elementary but important theorems on sign structure and sign classification that shows the intimate relation between the Peircean theory of empirical sign categories and the USST theory of sign structure. Then, in Sect. 5.2.2, I summarize a very few of the results of the USST, going far beyond the taxonomic science of semeiotic,⁴ as Peirce regarded it. Finally, Sect. 5.2.3 presents some conclusions and recommendations for future research.

5.2.1 *The USST-2000*

5.2.1.1 Background

This theory came to be called the universal sign structure theory, or USST, for short, since it claimed that it could explain the meaning structure, the information structure, and all other forms of semiotic structure of any kind of message, text, or com-

⁴ Peirce’s favorite spelling.

munication. These original goals gradually expanded over the years as the USST met with ever increasing success.

The USST is an abstract theory whose purpose is to explain the nature of semiotic laws and to aid the understanding of all semiotic reality. It can be described logically as a result of Peirce's abduction process. A sign is an abstraction and hence cannot really exist in the positivistic sense, but if it did exist, that would explain... (insert here whatever semiotic law, effect, or phenomena you are trying to explain)..., and then apply the USST to derive that law, effect, or phenomena. The derivation is the semiotic explanation of the law, effect, or phenomena.

The USST may be considered a development, an outgrowth, or an expansion of Charles Peirce's taxonomic theory of semiotics (called "Semeiotic Theory"). The reason for this is that throughout our investigations, we have had occasion to use several different taxonomies, or classification schemes, for signs. Of these, only the classifications by Peirce (1866–1892, 1866–1910) have proved to be satisfactory in every empirical setting for which a classification was wanted. We therefore ascribe the Peircean scheme an empirical reality, and would like our theory of sign structure to explain the applicability and usefulness of the Peircean classification scheme in terms of the structure of the sign. This is accomplished by the first nine theorems of the theory.

However, the USST goes beyond the Peircean science in that it provides not only a taxonomy but also a systematic method of explanation. For instance, in Sect. 5.2.1.3.1, we show how the USST motivates and explains Shannon's communication model. Most textbooks present this as an unmotivated, unexplained starting point. The USST thus brings Shannon's information theory firmly into the fold of semiotics.

5.2.1.2 Development of the USST

The guts of the USST are embodied in the USSD. The standard version, called the "USSD-2000," is shown in Fig. 5.1. The theory is universal in the sense that it displays the structure of all categories of signs. To show how this diagram explains the Peircean taxonomy, we must first state the following three principles of the theory:

The Representation Principle *A sign must consist of a triadic relation, and it must signify.* A sign, therefore, consists of three relational dimensions: a syntactic structure, a pragmatic structure, and a semantic structure.⁵

The Principle of Internal/External Balance *The internal and external structure of a sign must be balanced, consisting in the syntactic and semantic dimensions of exactly one external component for each internal component and vice versa, and in the pragmatic dimension of exactly two external components for each internal component.* The external components are called "information generators"⁶ and the

⁵ These dimensional names were given by Charles Morris, although his concept of *dimension* was off-base.

⁶ A later development proved that every information generator is also an abstraction generator.

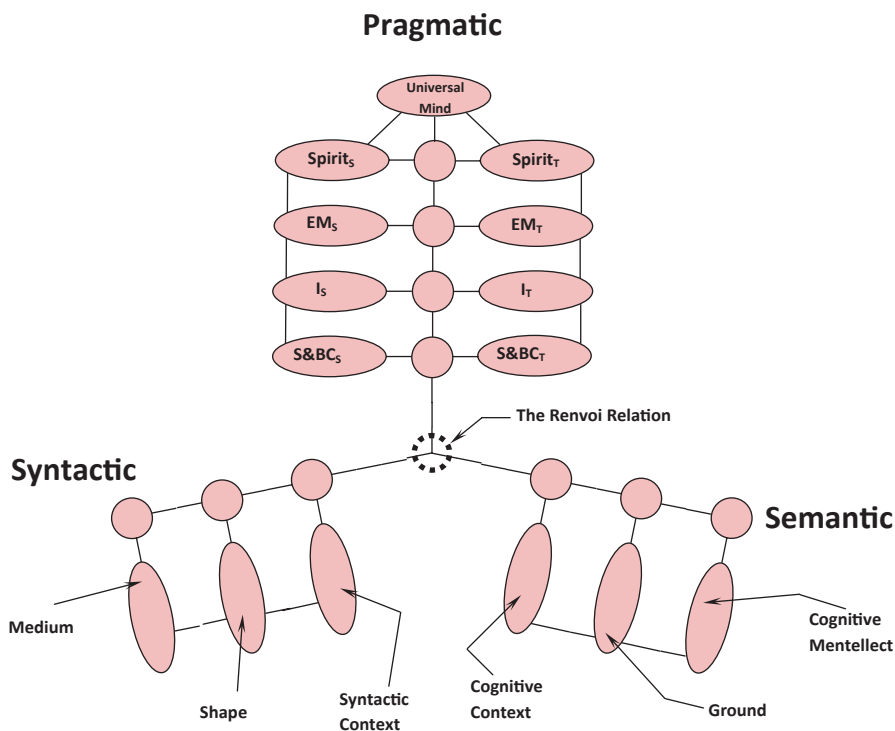


Fig. 5.1 The USSD-2000

internal components are called “components of meaning.” The two external components in the pragmatic structure are required because of its dual mediating role between the syntactic and the semantic structures and also between the source and target interpreters. The two components belong to the source and target structures, respectively.

The Principle of Additional Structure *Whenever a sign has more than the minimum structure, the additional structure is built up from the center out (as per Fig. 5.1), and for each dimension independently.* This is consistent with Peirce’s observation that there can be no thirdness without secondness and no secondness without firstness.

Using the USSD of Fig. 5.1 and these three principles, we can now explain the Peircean taxonomy of signs by means of nine representation⁷ theorems. Certain rules of interpretation or translation between the theoretical vocabulary and the observational (or less theoretical) vocabulary will become apparent as we proceed with the proofs of these theorems.⁸ The rules of interpretation are obvious, and they

⁷ Representation is used here in its mathematical rather than its semiotic sense.

⁸ Now called the “subduction” rules. See Pearson (1991).

form an integral part of the theory. We first define the Peircean taxonomy.⁹ We then give the nine representation theorems, and finally an example proof.

Definition 1 *A sign, whose being consists of an abstract quality both in itself and in its relation to other signs, is called a “TONE”.*¹⁰

Definition 2 *A sign, whose being consists of a general kind, both in itself and distinguishable from other signs, is called a “TYPE.”*

Definition 3 *A sign, whose being consists of an actual, single, physically existing individual, is called a “TOKEN.”*

Definition 4 *A sign, whose interpretant represents it to its interpreter, as a sign of possible reference is called a “RHEME.”*

Definition 5 *A sign, whose interpretant represents it to its interpreter, as a sign of fact or actual reference is called a “PHEME.”*

Definition 6 *A sign, whose interpretant represents it to its interpreter as a sign of reason, is called a “DOLEME”.*¹¹

Definition 7 *A sign, whose object is related to its representamen by an actual, single, existential, cause, and effect relation, is called an “INDEX.”*

Definition 8 *A sign, whose object is related to its representamen by a similarity in shape, is called an “ICON.”*

Definition 9 *A sign, whose object is related to its representamen by an arbitrary convention, agreement, or general law, is called a “SYMBOL.”*

We may now state theorems 1–9.

Theorem 1 *A sign is a tone iff it has exactly one level of syntactic structure. It therefore has one component of syntactic meaning (tagmension) and one syntactic information generator (the syntactic context).*

Theorem 2 *A sign is a type iff it has exactly two levels of syntactic structure. It therefore has two components of syntactic meaning (tagmension and eidension) and two syntactic information generators (the syntactic context and the shape of the sign).*

Theorem 3 *A sign is a token iff it has all three levels of syntactic structure. It therefore has three components of syntactic meaning (tagmension, eidension, and onto-*

⁹ Strictly speaking, this will not be exactly the Peircean taxonomy, but an explication of it (in the sense of Quine (1960)) since the three classification schemes used by Peirce to define his sign categories are significantly changed, despite bearing the same names, due to a change in the concept of semiotic dimensionality (Pearson 1977a).

¹⁰ It must be remembered that Peirce employed a great number of different and differing nomenclatures. The one adopted here was used in Pearson (1977a).

¹¹ Peirce’s actual term was “deloam” from the Greek δελωμ.

sion) and three syntactic information generators (the syntactic context, the shape of the sign, and the medium in which it is embodied).

Theorem 4 *A sign is a rheme iff it has exactly one level of pragmatic structure.* It therefore has one component of pragmatic meaning (contension) and two pragmatic information generators (the source social/behavioral context of the sign and the target social/behavioral context of the sign).

Theorem 5 *A sign is a pheme iff it has exactly two levels of pragmatic structure.* It therefore has two components of pragmatic meaning (contension and purporsion) and four pragmatic information generators (the source social/behavioral context, the target social/behavioral context, the source interpretation, and the target interpretation).

Theorem 6 *A sign is a doleme iff it has exactly three levels of pragmatic structure.* It therefore has three components of pragmatic meaning (contension, purporsion, and emosion), and six pragmatic information generators (the source social/behavioral context, the target social/behavioral context, the source interpretation, the target interpretation, the source emotive mentellect, and the target emotive mentellect of the sign).

Theorem 7 *A sign is an index iff it has exactly one level of semantic structure.* It therefore has one component of semantic meaning (denotation) and one semantic information generator (the dynamic object of the sign).

Theorem 8 *A sign is an icon iff it has exactly two levels of semantic structure.* It therefore has two components of semantic meaning (denotation, and connotation) and two semantic information generators (the dynamic object and the dynamic ground of the sign).

Theorem 9 *A sign is a symbol iff it has all three levels of semantic structure.* It therefore has three components of semantic meaning (denotation, connotation, and pronotation) and three semantic information generators (the dynamic object, the dynamic ground, and the cognitive mentellect of the sign).

Proof of Theorem 1 By the representation principle and the principle of additional structure, any sign must have at least one level of syntactic structure and this must be the innermost or tagmatic level. According to the USSD-2000 (Fig. 5.1), the outermost syntactic level consists of the embodiment of a sign in a physical medium. But if a sign had an embodiment in a physical medium, it would exist as an actual, single, physically existing individual and could not exist merely as an abstract quality. It would be a token, not a tone; therefore, a tone cannot have an ontotic level of syntactic structure.

Also from Fig. 5.1, the second (or middle) syntactic level consists of the distinguishability of a sign by a shape. But, if a sign had a distinctive, distinguishable shape, it would exist as a concrete general, serving as an archetype for all tokens of the same type and could not exist, etc. It would be a type, not a tone. Therefore, a tone cannot have an eidontic level of syntactic structure.

Thus, a tone has exactly one level of syntactic structure, i.e., the tagmatic structure. By the principle of internal/external balance, this structure will consist of both one internal component and one external component. From Fig. 5.1, we see that the internal component is tagmension, the meaning component abstracted from the syntactic context, and the external component is the syntactic context, the syntactic information generator abstracted from the tagmatic level of syntactic structure—*QED*.

The other proofs are all similar and equally simple, but all nine proofs may be found in (Pearson and Slamecka 1977a, b).

Some other theorems may easily be added to the above.

Theorem 10 *The sum of the number of syntactic and semantic levels must not be less than 4.*

Letting L_X stand for the number of syntactic levels and L_S stand for the number of semantic levels, this may be easily expressed as

$$L_X + L_S \geq 4.$$

Theorem 11 *The number of semantic levels must not be less than the number of pragmatic levels.*

If we let L_P stand for the number of pragmatic levels, then this can be expressed as

$$L_S \geq L_P.$$

This can be interpreted as saying that a term can be an index, icon, or symbol, but a proposition can only be an icon or symbol, while an argument must only be a symbol, an observation first made by Peirce.

The following four theorems assure that every sign must always be able to determine an interpretant.

Theorem 12 *Three-level syntactic structure generates syntactic recursion.*

Theorem 13 *The first three levels of pragmatic structure generate pragmatic recursion.*

Theorem 14 *Three-level semantic structure generates semantic recursion.*

Theorem 15 *The simultaneous and joint action of syntactic recursion, pragmatic recursion, and semantic recursion guarantee that any sign has the possibility of being interpreted at any time in the future.*

Many other theorems of semiotic structure may easily be derived from the above theory. These few were chosen as examples for their simplicity, clarity, and importance.

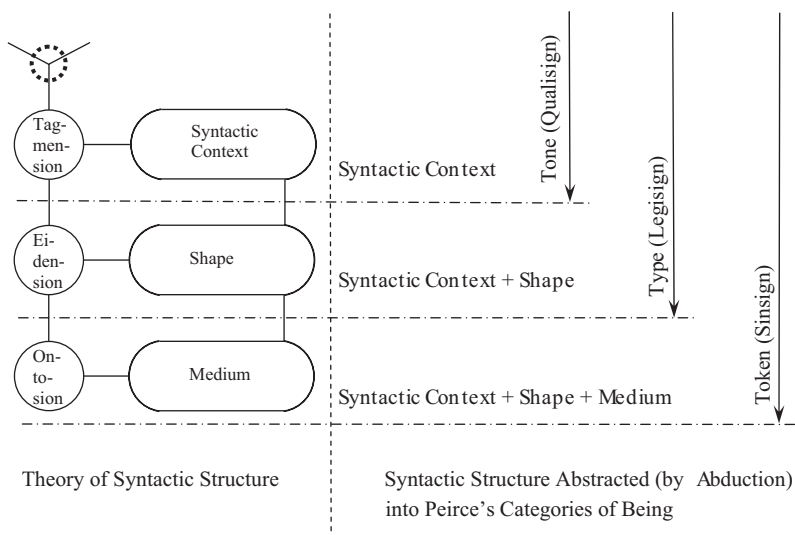


Fig. 5.2 The syntactic translation diagram

5.2.1.3 Syntactic Considerations

Many investigations into the structure of signs and information processes have been carried out using the language, concepts, and theory outlined above. Each investigation was selected for its ability to test and demonstrate the utility of the language and theory across as broad a range of basic information and semiotic processes as possible. We begin with examples involving only the syntactic structure. The translation between syntactic structure and Peirce’s categories of being is shown in Fig. 5.2.

The USST predicts three levels of syntactic structure: ontotic, eidontic, and tagmatic. In the syntactics of natural language words, these levels may be identified with phonetics, morphophonemics, and tagmatics, respectively, although the details of this identification have not been explicated as yet. Instead, early efforts were concentrated on using this prediction to ground the statistical theory of syntactical communication within semiotics. The USST appears to offer the most natural explanation for this theory.

The Statistical Theory of Syntactic Communication Processes

In communication, we use actually existing, embodied signs (tokens) to carry out actual instances of communication. Communication thus requires the use of sign tokens; the syntactic structure of sign tokens is therefore our only concern in syntactic communication theory. Therefore, according to Theorem 3, the syntactic structure of a sign used in communication is represented by the diagram of Fig. 5.3. This is

Fig. 5.3 The structure of communication

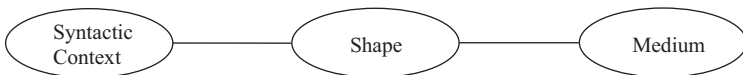
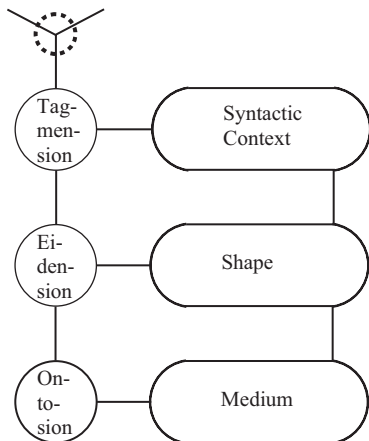


Fig. 5.4 Rotated external syntactic structure

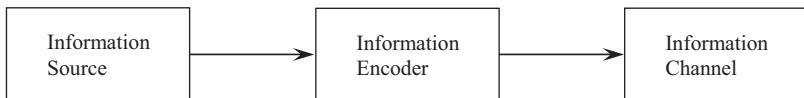


Fig. 5.5 The communication interpretation

what Peirce called “the representamen.” In the standard theory of syntactic communication as introduced by Shannon (1948), however, we are not interested in the meaning of the message, not even the syntactic meaning; hence, ignoring the internal portion of the above diagram and rotating the external portion, we obtain Fig. 5.4.

Figure 5.4 already looks a lot like Shannon’s communication model; however, we must now interpret this model in the communication setting. In generating, or initiating, communication, we start with the syntactic context, since this is the first, or innermost, level (as determined by the principle of additional structure). Therefore, we first generate the syntactic context of a sign for communication; next, we add a shape to the sign and its context; and finally, we embody the sign in some physical medium so that the communication can actually be carried out. From these steps, we derive Fig. 5.5. The communication component that generates the context of a sign has been called an “information source” (Ash 1965); the component which adds a shape to a sign and its context is called an “encoder”; and the physical medium embodying the sign is called the “communication channel.” Taking into account the fact that communication includes both a sender and a receiver, we arrive at

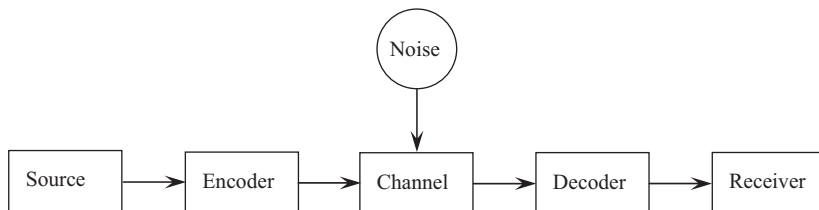


Fig. 5.6 The communication model

the traditional communication model, shown in Fig. 5.6. As usually presented, this diagram includes noise, a physical property of every real physical medium.

In most textbooks, the “communication model” is usually presented unmotivated. We were able to motivate the communication model directly from a simple semiotic theory of sign structure. It was derived rationally from the fact that the theory of syntactic communication is interested only in the external syntactic structure of tokens.

From our viewpoint, current theories of communication are theories of communication physics, not general semiotic theories of communication. We suspect that further advances in communication science will require further development of more general semiotic theories. For example, the fact that communication engineering and communication physics is impacted by semiotics has a flip side in that semiotic theory must also be influenced by communication engineering and physics. Such concepts as, for instance, bandwidth and the Nyquist criteria must be brought inside semiotic theory and receive a thoroughly semiotic interpretation. I suspect these make up part of the four linkages shown in Fig. 5.7.

Figure 5.7 illustrates a new discipline, known as communication physics, and its associated engineering discipline, known as communication engineering. We can thus see how communication physics can form a bridge between physics and semiotics.

The semiotic properties associated with tone, type, and token phenomena may be used to understand the communication processes associated with each component. Pranas Zunde and I incorporated this approach into a set of class notes for a senior level course on communication processes, at Georgia Institute of Technology, which makes these processes quite easy to explain (Pearson and Zunde 1976).

Eidontic Level Studies

Much interest in information theory has concentrated on the semiotic concept of *shape*. This section reports on a major study to learn more about the quantitative theory of semiotic shape.

The deviation in the shape of a natural language sign from its hypothetical norm, or expected shape of a typical sign in a given natural language is of considerable interest to information science, psychology, physiology, and pedagogy for both

Fig. 5.7 The communication physics domain

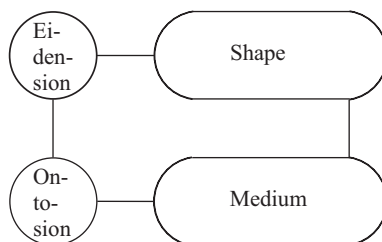


Fig. 5.8 Law of redundancy for natural language

theoretical and applied reasons. In an early work, Shannon attempted to study these phenomena (Shannon 1951) by developing a pseudo-relation (nonempirical and nonmeasurable).

To measure such a deviation, an instrument called the “eidontic deviometer” or “eidometer” for short, was invented (Pearson 1981). The accuracy, precision, and reliability of the eidometer were assessed (Pearson 1987c)¹² and it was found that all three were sufficient to allow the conversion of Shannon’s pseudo relation into a true law of semiotics (Pearson 1981). My law of redundancy for natural language (Pearson 1977b; Pearson and Slamecka 1977a; Shannon 1951) is shown in Fig. 5.8.

The differences between this law and Shannon’s pseudo-relation are discussed in Pearson (1977a).

Also in previous work, Miller et al. (1954) had shown that the interpretation of signs is affected by their shape. The eidometer enabled a precise measurement of this phenomena, and hence leads to a better understanding of the role of shape in the interpretation process. Interpreting these two previous results using the USST led to a direct measurement of the redundancy curve for natural language as shown in Fig. 5.8. This measurement was not possible before the invention of the eidometer (although Shannon (1951) determined upper and lower bounds for this curve mathematically).

¹² Many of these concepts of measurement quality are discussed in Pearson (2012a).

The eidometer permits the redesign of many other classical experiments involving the measurement of sign shape, as well as the design of new experiments investigating various other aspects of the theory of semiotic shape. Nearly, 100 preliminary experimental paradigms employing the eidometer are now on file.

Algorithmic Information

This next example shows how the USST theory of shape can be applied to the shape of phemes.

In many kinds of signs, shape is primarily concerned with length and pattern, especially signs associated with data and/or computer codes. In 1965, Kolmogorov proposed a measure of shape which is mainly a measure of the pattern (Kolmogorov 1965) called “algorithmic information” or “complexity.” It pertains to the length of the shortest algorithm that will produce a given sign as its output.

Patterns, however, can be described verbally, whether for the purpose of internal coding or of long-term memory and reproduction. In 1963, Glanzer and Clark, using signs composed of linear arrays of black and white elements, showed that accuracy of reproduction of patterns was correlated with the length of the description of these patterns (Glanzer and Clark 1963).

In this case, the correlations were based on average rather than minimum lengths, and length was measured as the number of words in a natural language (American) description rather than the number of steps in an algorithm. Using various outline shapes, Glanzer and Clark further showed that the length of the description was correlated with judged complexity of the shapes; in general, longer descriptions go with greater difficulty of learning and with greater judged complexity.

Conceptually, the Kolmogorov and the Glanzer–Clark measures are the same and show a relation between the eidontic structure of phemes and their ease of interpretation. Kolmogorov’s measure is a formal, or mathematical, model of Glanzer–Clark’s empirical measure.

Other Measures Associated with the Theory of Shape

Many more concepts of information abound in the literature, all having something to do with the shape of the sign. Among these are:

1. Popper’s inductive information
2. Shannon’s selective information
3. Kullback’s statistical information
4. Osgood, Suci, and Tannenbaum’s pragmatic information
5. Fisher’s metrical information
6. Gabor’s structural information
7. Loveland’s algorithmic information
8. Mackay’s scientific information
9. Carnap and Bar-Hillel’s (so-called) semantic information
10. Hartley’s information capacity
11. Mandelbrodt’s information temperature

12. Ackoff's (so-called) pragmatic information
13. Hintikka's (so-called) semantic information
14. Shannon's negentropy
15. Harrah's surprise information
16. Quastler's uncertainty information
17. Zipf's relative frequency information
18. Kemeny's syntactic strength
19. Rashevsky's topological information
20. Büchel's structural information (Büchel 1967; Ryan 1972)
21. Wilson's bound information (Wilson 1968; Ryan 1972)
22. Ryan's functional information (Ryan 1972)

Büchel also referred to his structural information as “structural negentropy” and defined it as the information required to construct a system from its parts (Büchel 1967; Ryan 1972). Thus, this can be seen to be a variation on Kolmogorov's algorithmic information measure. Wilson's bound information is defined as the information required to specify the precise microstate of any resonant system (Wilson 1968; Ryan 1972); while Ryan (1972) defines functional information as the entropy change corresponding to the order put in, or maintained in, the environment of action.

5.2.1.4 Pragmatic Considerations

Why do we take up pragmatic considerations next when everyone knows by heart that the proper sequence should be: syntactic, semantic, and then pragmatic? The answer comes from the dynamic theory component of the semiotic paradigm, the TOS. What this makes clear is that the theoretical sequence has empirical consequences and the order must be syntactic, pragmatic, and semantic; and that the sequence used universally by Peirce, Morris, Bloomfield, Chomsky, etc., is wrong (Pearson 1998). This will become clearer in the next discussion. Figure 5.9 shows how to translate between Peirce's pragmatic categories and my pragmatic structure.

Bosanquet's Law and the Factorization of Mood

Bernard Bosanquet, British idealist philosopher (1848–1923), claimed that every proposition could be factored into a predicate about the ideal world. Despite Bosanquet's use of obsolete terminology, what is important is that his analysis does not require an ideal world. It holds for any world or genre whatever. And although it does not hold for every sentence of any kind, it does hold for every indicative sentence type in any language. Thus, we may call this Bosanquet's law (Pearson 1998).

Using Bosanquet's law to improve our understanding of the USST leads to a pragmatic definition of mood. *MOOD is a syntactic coding expressing the attitude that the source interpreter, I_s , of the sign bears towards the whole proposition contained within the sign itself.* This definition relates to the link between the source

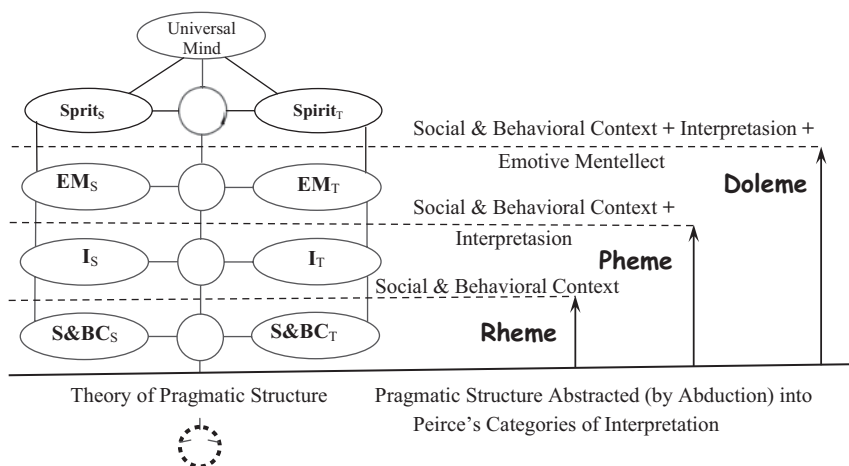


Fig. 5.9 The pragmatic translation diagram

interpretation of the sign and the purporision of the sign, and leads to a natural generalization of Bosanquet’s law that was first stated by myself in Pearson (1998). *Every natural language sentence type can be factored into a mood operator followed by a semantic operator containing a proposition. Further, each of the moods can be represented by an invariant operator independently of the semantic proposition, and each semantic proposition can be represented by an invariant operator independently of the mood of the sentence.*

This can be represented very neatly by the operator expression

$$\Pi_{ph} = \Pi_M : \Pi_S$$

where Π_{ph} is a pheme operator, Π_M is a mood operator, and Π_S is a semantic operator.

The General Factorization Law

As I was carrying out this study, I also became aware of the work of the American semiotician, John Searle, and the critical relevance it has for the project of factoring semiotic operators in general. Searle’s work relates to the factorization of what I loosely called the mood operator, but concerned not so much mood itself as the pragmatic structure of the sign in its relation to the *illocutionary force*, a concept developed by the British philosopher, John Austin (see Searle 1969).

I later learned that an important part of this relation between the pragmatic operator and the illocutionary force concerned the operation of converting a type into a token, so I thus began to look at the structure of the type-token conversion opera-

tor as part of the structure of the pragmatic operator and gradually the concept of semiotic factorization started to become clearer. To finish this brief thought: *All complete utterances have both a mood and an illocutionary force and these are always present and distinct in every pheme token, even when they appear identical in the surface structure of the utterance. The mood is part of the type while the illocutionary force is part of the token.*

After figuring this out, it became obvious that *all sentential utterances can be represented by a pheme operator as shown by the next equation:*

$$\Pi_{ph} = \Pi_X : \Pi_P : \Pi_S$$

where Π_{ph} is a general pheme-token operator, Π_X is the syntactic operator, a general operator governing the syntactic dimension, Π_P is the pragmatic operator, a general operator governing the pragmatic dimension, and Π_S is the semantic operator, a general operator governing the semantic dimension. We have now arrived at the sequence: syntactic, pragmatic, semantic that is necessary here to make phematic analysis work. Similarly, in the case of phematic synthesis, we have the following equation containing the sequence: semantic, pragmatic, syntactic, just as predicted. There is no way we can force the sequence: syntactic, semantic, pragmatic to work.

$$\Pi_S^{-1} : \Pi_P^{-1} : \Pi_X^{-1} = \Pi_{ph}^{-1}$$

Let us take a minute to review what has happened here. We started with a link at the purporsion level of pragmatic structure and have arrived at a set of relations which constitute a semiotic law, or constellation of laws. This essentially repeats what happened in our syntactic investigations of semiotic structure. This leads one to suspect that every link between sign components in the USSD represents a constellation of laws relating those two components. In all of our investigation to date, this suggestion has proven true, leading us to a major interpretation of the USSD. *Every link between two sign components in the USSD represents a constellation of semiotic laws; and it is the USST that explains these laws.* This is a powerful tool for research economics because it shows us how to use the USST to predict where to look for interesting empirical questions for semiotic research.

5.2.1.5 Semantic Considerations

Peirce himself adumbrated the three levels of semantic structure present in the USSD. Without developing any systematic structure or formal theory, he attempted to discriminate the three semantic levels. In MS 645, devoted to an explication of the concept of *defining*, Peirce points out that there are stages one must pass through in order to arrive at a mutually acceptable definition of any name, term, or complex general idea, all of which he calls “rhemes.” There are three stages in the definition of any rheme and he names them from the top to bottom as: (1) precision, (2) dissociation, and (3) discrimination.

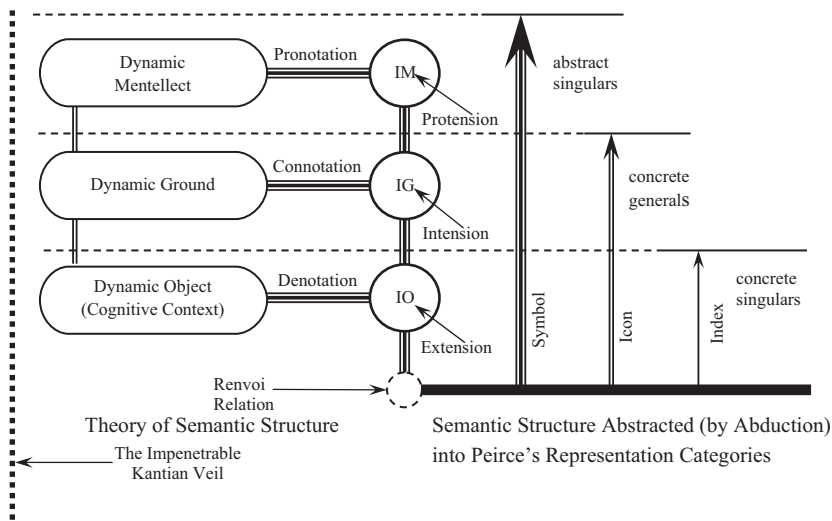


Fig. 5.10 The semantic translation diagram

Precision is analogous to the lifting out of the accepted ground some quality, property, or aspect to be focused on isolated from its customary cognitive context. This corresponds to précising in abstraction and abductive reasoning in logical analysis.

Dissociation requires the separation of those qualities, properties, or aspects that are necessary to the definition of the concept from all those others which are merely accidental or else totally unrelated. This results in a knowledge of the ground of the sign.

Discrimination points out the object of the sign as this, and this, but not that, thus creating the extension of the sign. Thus, Peirce was generalizing and correcting the modern (1500–1900 C.E.) concept of *clear* and *distinct* levels of semantic structure.

Many different studies investigate the semantic structure of the USST empirically, (Fig. 5.10), and either help improve our understanding of semantic theory or enable us to use the USST's theory of semantic structure to increase the state of the art of doing semiotic research in general. Two examples have been chosen for illustration.

Moore's Paradox of Analysis

G. E. Moore, an early-twentieth-century British philosopher, was concerned about a paradox discovered earlier by Alexius Meinong, but which has since come to be called Moore's paradox of analysis, and may be stated as follows: if the analysis of the meaning of a philosophical concept has the same meaning, it is trivial; but if it has a different meaning, then it is wrong. Meinong and Moore both knew well that

philosophers very often make correct and nontrivial analyses, but they were never able to develop a theory of analysis which solved the paradox.

While other philosophers have tried with varying amounts of success, the problem has never been solved completely. The most popular approach is to say that the problem lies in the formulation of the paradox, which assumes that meaning is either a single or a holistic kind of thing that is either completely the same or else totally different. Frege (1892) and Carnap (1958) both assumed that the meaning of signs has two semantic components, but their assumptions were for entirely different purposes. Carnap was able to delineate the character of scientific analysis very well with his concepts of *extension* and *intension*, but he was never able to handle the kind of philosophic analysis that Meinong and Moore were interested in. Moore himself said that he thought philosophic analysis required something like determining the same objects by the same properties but understanding or cognizing this determination in a different way.

From the USSD, we note that protension uniquely determines intension, which in turn uniquely determines extension; while a difference in extension ensures that two terms will have a difference in intension, which in turn ensures a difference in cognesion. We may therefore state the solution of Moore's paradox as follows: *Scientific analysis requires an identical extension with a difference in intension, while philosophic analysis requires an identical intension with a difference in protension.*

It turns out that three levels of semantic structure are just the right amount and kind of structure to solve every known semantic paradox. Of course, this gives us increased confidence in the semantic structure hypothesized in the USSD.

Memory Coding

Another area involving semantic structure includes all the psychological processes of cognitive representation. We call this memory coding. If this can be related to the USST, the principle of paradigm inversion¹³ suggests that it would increase the accuracy, precision, and reliability of all future semiotic research. The principle of paradigm inversion is the keystone for integrating experimental and observational semiotics into theoretical semiotics.

Kintsch has reported three aspects of cognitive memory which he calls "sensory," "short term," and "long term" (Kintsch 1970). Bruner has reported several modes of representation, or coding, including "enactive," "ikonic," and "symbolic" (Bruner 1966). He studied the sequence in which these capabilities develop in children and the rate at which signs can be processed using the various modes of representation. It would appear as if there was only one form of coding associated with each aspect of cognitive memory; however, this is not clear because of confounding effects on the experiments.

An experimental program was designed to critically isolate each memory aspect and the mode of representation that is associated with it. The first experiment, to

¹³ See Pearson (2012b).

isolate and determine the characteristics of iconic coding, uses an interference effect suggested by Siegmann (1975); in experimental trials the interference effect is well marked and can be detected easily (Pearson et al. 1976). Another experiment used children to verify Bernbach's results (Bernbach 1967).

The advantage of achieving an answer to this question is to allow the principle of semiotic reinterpretation¹⁴ to reinterpret quantitative psychological measurements as accurate, precise, and reliable semiotics measurements so that they can be used for future development of semiotic theory. For instance, memory span times, processing rates, and age of development are all quantitative measurements, and all run in the same sequence as the levels of semantic structure of the USSD: index, icon, and symbol.

5.2.1.6 Summary

In this section, we have described the USST, a theory of sign structure that explains the syntactic, pragmatic, and semantic taxonomy of signs due to C. S. Peirce, and goes beyond Peirce to begin the development of an abductive/subductive theory. Fifteen theorems were given in order to show the kind of formal power this theory makes available to the study of semiotics. Early experiments were described in order to exhibit the kind of empirical foundation that supports this theory. It is time to move on now to discuss later and more powerful results that exhibit the true advantages and power of this theory.

The 1989 split session of IASS-4 in Barcelona, Spain and Perpignan, France seemed to mark a watershed in direction and emphasis for research in semiotic theory. The symposium on empirical semiotics that was held in the Barcelona section of that Congress marked the general acceptance of the semiotic paradigm, with all of its subparadigms, and especially the USST (then called "USST-89"), and seemed in unanimous agreement that it was time to apply these techniques to solving some of the major problems in semiotics. Most of the research reported on in this section was carried out before the 1989 Congress while most of the research reported on in the following sections was carried out after that Congress.

5.2.2 Results and Advantages

5.2.2.1 Syntactic Results

Again, space allows the inclusion of only two examples.

¹⁴ See Pearson (2011).

The PZ Notation

One of the most significant results in the study of syntactic structure over the past few years is Shea Zellweger's invention of the PZ notation for propositional material logic. Zellweger (1982, 1997) developed a notation for each of the 16 binary connectives, whose shape encodes the logical properties of the connector and thus helps to reflect the structure of propositional logic. He then goes on to develop an algebra for the connectives that illuminates that structure and makes it obvious.

Keeping the USSD in mind is the easiest way of understanding the strategic moves made in this development. Whereas Aristotle found a way to code the extensional level of semantic structure onto the tagmatic level of syntactic structure with syllogistic logic, Zellweger found a way to code the tagmatic level of syntactic structure onto the eidontic level with his PZ notation. This should motivate a search for a way of double coding that will code at least part of the extensional semantic structure onto the eidontic structure. While this would not result in the complete universal language of logic that Leibniz and the Scholastics sought, it would represent an achievable part of it.

The Type-Token Relation for Natural Language Text

For about 15 years, I used the syntactic structure of the USST by applying the definition of types and tokens to various observations on natural language text. This enabled me to derive six boundary conditions (BCs) on a function known in the literature as the type-token relation. Finally, in Pearson (1987b), I was able to apply a simple statistical urn model to the syntactic dimension of the USSD and thereby derive, from a few obvious and simple semiotic assumptions, a function that satisfied all the known BCs (the first ever to do so). A counting experiment was then carried out and the result was that the theoretical function matched the observed measurements in every case (again, the first ever to do so).

Thus, by the application of mathematical semiotics to the USST, and making a few simple semiotic assumptions, the exact expression for the type-token relation for natural language text was derived for the first time. The derived expression satisfied all known BCs and was an exact match to observation within instrument tolerance. Pearson (1987a) contains a more detailed history, derivation, statistical tests, data, and bibliography.

Assuming $T(K)$ represents the cardinal number of word types at a point in the text where the ordinal number of word tokens is K , then the BCs are:

1. $T(0) = 0$
2. $T(1) = 1$
3. $T(m) \leq T(m+n) \leq T(m) + n$, for all nonnegative integers m, n .
4. $\lim_{K \rightarrow \infty} T(K) = V_\infty$ (where V_∞ is a finite integer)
5. $\Delta T(K)$ is monotonically decreasing for all values of K ; and
6. $\lim_{K \rightarrow \infty} \Delta T(K) = 0$

The derived type-token relation for natural language text is then:

$$T(K) = V_{\infty} \left[1 - \left(\frac{V_{\infty} - 1}{V_{\infty}} \right)^K \right]$$

5.2.2.2 Pragmatic Results

The pragmatic dimension¹⁵ is one of the most difficult areas of semiotics. Therefore, it is easy to understand that this is where the USST has made some of its most notable achievements. These include discoveries ranging all the way from the need for a revision to the USSD, thus showing its power of self-correction, to a new, and totally unanticipated, law of mystical union, thus showing its predictive power.

Discovery of the Need for a New Level of Pragmatic Structure

Advocates of the semiotic paradigm claimed that it explained all forms of communication and sign structure (Pearson 1977a, b, 1982a, b). However, these early claims neglected the evidence of religious communication. Various religious phenomena can be interpreted as forms of communication. For instance, prayer can be interpreted as communication from man to God, and revelation as communication from God to man. Other religious experience can also be interpreted in this fashion, such as the interpretation of union as the development of close communication between man and God and mystical experience as an unexpected experiencing of God. In this vein, communication between man and the Holy Spirit is also interpreted as a form of communication between man and God (Teresa of Avila 1565(c)).

The USST could not explain the semiotics of such communication as it stood in 1999. Could the USST be modified to incorporate the new forms of communication, or would it have to be abandoned to a radically new and more powerful theory? It turned out that the only change required was the addition of one new level of pragmatic structure.

Revisions to the Pragmatic Dimension of the USSD

A single, very simple, extension of the USST allows for the explanation of religious communication without sacrificing any of its previous explanatory power. This extension involves the addition of a fourth level of pragmatic structure to the USSD. Essentially, it says that the universal mind is part of every sign. Pearson (2000) describes the requirements on any modification to theory, the search for, and development of the new theory, and an interpretation of the new epistemology resulting from the new theory.

¹⁵ Morris named this dimension in honor of Peirce (personal communication).

This change yields all the desired improvements, but it also produces some unanticipated predictions. To date, all of these predictions that have been tested have been verified. This is powerful evidence in favor of the USST and this new refinement.

The unanticipated predictions include an explanation of the fallibility of revelation, and an explanation of revelation as a source of knowledge, thus requiring a modification to most theories of epistemology. It also raises some questions. Such as, how do we test the accuracy of revelation, how do we detect and correct the errors of revelation, and how do we increase the efficiency and efficaciousness of prayer? The logic of abduction is helpful in answering these questions about revelation.

But revelation also answers some perplexing questions in the study of abduction, such as where do the very fine guesses that are required to make abduction work, come from. Peirce credited them to the evolution of human instinct, whereas this new theory credits them to revelation from the universal mind. This suggests a very close relation between the semantics of abduction and the pragmatics of mystical communion. This is the first adumbration of such a relationship.

Unanticipated Advantages of the Revised USSD

The addition of a fourth level of pragmatic structure not only solved the problem of religious communication, which motivated the change, but it also resulted in many unforeseen predictions; and every prediction that has been tested empirically has been verified. This is powerful evidence in favor of the proposed changes to theory. These predictions are listed and discussed in Pearson (1999).

Explanation of a Classical Theological Ambiguity

The modifications to the USST mentioned above revealed the existence of a deep seated and pervasive ambiguity in the concepts of *love* and *union*. These ambiguities were adumbrated in the theologies of Peirce (Evolutionary Love), Teilhard de Chardin (1955), Bonhöffer, Tillich, and Wilber, etc., but never clearly recognized before.

The universe itself was created out of love by the universal mind that perpetually flows in and through the spirit (the Holy Ghost of Christian theology), the ceaseless novelty that has the strange habit of adopting habits so that over time and with the help of continuity, love becomes law. Whereas community is founded on human love, the Christian concept of *love of man for man*, or *ἀγαπέ*. These two concepts of *love* have different semiotic structures that allow them to play their distinct roles.

Teresa of Avila always professed a *union with Christ* in her mystical trances, while Christ himself always stressed that his mystical experiences were with God (the creator), a union in God. These two concepts of *union* also have distinct semiotic structure. And this difference also causes them to play different roles in all the-

ologies examined. Interestingly, these differences in the concept of *union* involve the same differences in semiotic structure as the differences in the concept of *love* discussed above.

Now that semiotic theory has the ability to untangle these confusions of ambiguity, it is easy to discover their pervasive existence throughout modern theology and explain many of the startling contrasts between modern and postmodern theology.

This investigation concentrated on the modifications to the USST that allow this powerful advance in semiotic explanation, concentrating on the parts of sign structure that these two ambiguities share in common. It thereby explained the semiotic structure of both halves of the two ambiguities in terms of the modifications to the USST. And finally, it found examples of the treatment of these ambiguous concepts in modern theology, and the different treatment of both ambiguities in postmodern theology that adumbrated their discovery and leading to their explanation in terms of semiotic structure.¹⁶

The Law of Mystical Union

Pearson (2003b) concentrated on a semiotic analysis of mystical union and other closely related states of consciousness, using the USST-2000 as the primary tool of theoretical analysis. Their religious and empirical properties were explored using data from cognitive psychology and Christian mysticism, and examples were used from Christianity, Shamanism, Islam, and other religions.

Various instruments, such as music, dance, drumming, hypnosis, and prayer, were examined for their possibilities as probes to explore the structure of these states, as well as their possibilities for several new types of semiotic experiments.

St. Teresa (1565c) examined the structure of prayer, which is like the structure of hypnosis and Scott Goble examined the structure of rapture, which is similar. Baer (2001) analyzed various aspects of the holy as given by Levinas, and Corington (1993) analyzed the semiotics of the divine from the standpoint of ecstatic naturalism. Pearson has developed the communicative analysis capabilities of the USST-2000. All of these helped to throw light on the structure of mystical union and its semiotic analysis.

This investigation discovered many interesting semiotic properties associated with mystical union phenomena, but by far the most important was the law of mystical union, which states that *the logics of meditation, hypnotism, artistic rapture, prayer, and mystical experience are identical*. A single logic can be developed that will apply to all. Not that meditation, artistic rapture, hypnotism, prayer, and mystical experience are the same, but just that their logics are. This can best be summarized by Fig. 5.11, which displays the progressive opening and closing of various levels of the selfhood sign structure (S^3) as rapture, mystical experience, etc., progress deeper and deeper into the selfhood.

¹⁶ Discussed in more detail in Pearson (2001).

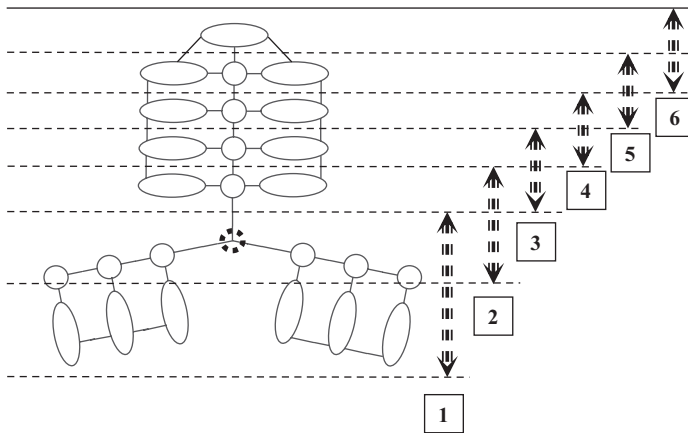


Fig. 5.11 Theoretical hypotheses regarding the selfhood processes of mystical union

5.2.2.3 Semantic Results

Perhaps it is only because of my own personal interests or abilities, but most of the results and advantages of applying the USST to semiotic analysis have come in the semantic dimension.

Empirical Convergence and Ampliative Reasoning

Peirce asked how a concept, proposition, or argument could achieve empirical reality and suggested that the Cartesian single-chain mode of deductive reasoning, used by modern logic, be replaced by the multifilament cable mode of ampliative reasoning, for his postmodern logic. This was all the hint that Wendell Garner, a mid-twentieth-century experimental psychologist, needed in order to develop a concept of *operational convergence* (Garner 1974). However, this still leaves unanswered the status of such important scientific signs as facts, laws, and theories. The USST allowed Garner’s approach to be completely generalized by Pearson (2003a) giving a satisfactory answer to Peirce’s question for the empirical reality of all scientific signs.

Wendell Garner was one of the earliest psychologists to apply Shannon’s concept of variation measures in modal statistics (“information”—so called) to problems of perception and other areas of experimental psychology (Garner 1954, 1962; Garner et al. 1956; Pearson 1978). Although he came to use Shannon’s quantitative measure of “information” less and less in later years, the basic idea of information structure led him to develop several interesting concepts, such as the concept of *dimensional integrity*, and the concept of *energetic versus informational properties*

(Pearson 1978). In applying his basic methodology of “Critical Realism,”¹⁷ he had to ask himself how his concepts could achieve empirical reality, and in doing so, he explicated his concept of *operational convergence* (Garner 1954, 1974; Garner et al. 1956; Pearson 1978).

The basic idea [of converging operations] is that we come to know things, usually described as concepts, by carrying out two or more experimental operations that converge on the single concept. A concept that is synonymous with a single operation is nothing more than a restatement of an experimental result. But a concept that arises as a consequence of converging operations has a reality that is independent of any single experimental observation. ... However, we must have a variety of inputs and outputs, differing in their nature, to allow convergence to meaningful concepts that are in fact independent of any single observation or experimental result. (Garner 1974, p. 186 f.)

Garner gave as an example several of his own concepts. But one that will be more easily understood by most readers is that of the many experiments involving, and the many different ways of observing and measuring, the observational temperature, all of which converge to essentially the same result and play the same role in the laws of thermodynamics, thus giving to the concept of *temperature* an empirical reality.

Garner’s concept of *operational convergence* applies to inductive reasoning to a general concept. One can see here the influence of troth Bacon, Mill, and Peirce. Converging operations hold when many different kinds of observations, measurements, experiments, etc., converge to a single general concept, which subsumes them all. This is the process that Peirce described as a multifilament cable. The general concept arrived at always has a concrete general connotation.

Instead of asking for the source of empirical reality for a general concept, we might have asked how a general proposition, such as a scientific law, achieves reality. Likewise, we could have asked about a theoretical proposition or an individual argument. Thus, we have a two-dimensional, nine-way classification of empirical convergence as shown in Table 5.1.

Using the USST, the explication for each of the nine kinds of scientific signs is a simple generalization of Garner’s explication. An example for eductive phematic convergence follows for illustration.

A proposed fact that is justified by a single observation is nothing but an ad hoc eduction from a concrete singular to a specific individual—nothing but a convenient shorthand for recording the data from that one observation. But a single fact that records and summarizes the data from many different observations, each

Table 5.1 Forms of empirical convergence

Convergence	Rhematic	Phematic	Dolemic
<i>Eductive</i>	Eductive rhematic	Eductive phematic	Eductive dolemic
<i>Inductive</i>	Inductive rhematic	Inductive phematic	Inductive dolemic
<i>Abductive</i>	Abductive rhematic	Abductive phematic	Abductive dolemic

¹⁷ Ironically, this is the same name that Peirce gave to his philosophy.

made objectively and fairly on different individuals chosen by random sampling¹⁸ from the entire population using experimental design theory,¹⁹ gains more empirical reality with each new observation that justifies it. This gain in empirical reality is called “eductive phematic convergence.” We say that the collection of observations converges to the empirical reality of the fact. Thus, eductive phematic convergence means that one fact converges to the recording and summarization of the data from many different observations. The resulting fact is a proposition with a concrete singular denotation.

Since it is convergence, rather than the precision of a single technique, that provides the empirical meaning of a concept, we should be free to use techniques that are not as precise and reliable as we might otherwise prefer if these techniques did not converge to a common result. As Garner says, “The ultimate validity of a concept does not depend on any single procedure, but on a convergent result, so the importance of any one procedure is greatly diminished” (Garner 1974, p. 188).²⁰

I would like to give one more example of empirical convergence because of its impact on our understanding of semiotic theory.

Garner introduced the notion of *converging operations* as an empirical justification for going from the concrete individual to the concrete general. The natural analog of Garner’s concept is my concept of *converging explanations* as an empirical justification for the step from concrete generals to an abstract singular—from law to theory.

Converging operations hold when many different kinds of observations, measurements, experiments, etc., converge to a single concept with one general description. Converging explanations allow us to go to the next level of scientific thinking. It is justified when we have many different laws with many different general concepts and their attendant many different general descriptions that can all be explained by the assumption of a single abstract theory.

A proposed theory that is justified by a single law is nothing but an ad hoc abduction from a concrete general to a hypothetical abstraction—nothing but a convenient shorthand for remembering that one law. But a single theory that explains many different laws gains more empirical reality with each new law that enters into its network of explanation. This gain in empirical reality is called “abductive dolemic convergence.” We say that the collection of laws converges to the empirical reality of the theory. Thus, abductive dolemic convergence means that one theory converges to an explanation of many different laws. The resulting theory is an argument with an abstract singular pronotation.

We can say that abstract theories, and other abstract dolemic symbols, obtain their empirical reality by means of abductive dolemic convergence. Abductive dolemic convergence holds when many different laws, general invariant descriptions, etc., converge by abduction to a single abstract theory that explains them all.

¹⁸ A concept developed by Peirce and his students.

¹⁹ A theory developed by Peirce and his students.

²⁰ Cf. Peirce’s multifilament cable.

Thus, applying this to our present discussion, with each new law subsumed, the USST converges to the most powerful explanation available in all of semiotics.

The Semantics of Perception

Many interesting theories, explanations, and solutions to important problems had to be left out of our discussions for lack of space. I have arrived at the conclusion that every semantic problem of interest can be solved using the USST. One theory that I deliberately left out was Peirce's philosophical theory of perception. That is because it is so important and its results so dramatic that it deserves a discussion of its own. I attempt to do that in this section.

Any adequate theory of perception must find a way to combine the syntactic, pragmatic, and semantic dimensions of semiosis. I have not even attempted this yet. The work mentioned here was reported in Pearson (2003c) and discusses some comments by C.F. Delaney (1993) on the scattered writings of Peirce on the philosophy of perception as seen through the lens of the USST, and concentrates only on the semantic dimension. It attempted to make some progress in the development of a generally accepted philosophical theory of perception by combining the little-known theory of perception by Peirce with both the semiotic methodology of the semiotic paradigm and the theoretical power of the USST.

In developing his philosophy of perception, Peirce presents an even balance of phenomenology, idealism, semiotics, realism, logical analysis, and scientific analysis in a more natural way than any of the classical phenomenologists, philosophers, or scientists themselves.

Peirce's notion of perception is a holistic notion that requires a detailed analysis into its logical components if we are going to get any satisfactory answers to the epistemological questions with which we are concerned. It is theoretically decomposable into simpler elements, but Delaney reminds us that, "the analysis should not blind us to the holistic character of the experience itself" (1993, p. 120).

Although it is not inappropriate to talk of *this* particular perceptual process and these *components* of perception, our actual process of perception is not a series of discrete units made up of isolated parts but rather a continuous whole. The actual process, no matter how direct or how short, involves dimensions of confrontation and meaning as well as elements of memory and anticipation. However, this having been said, Peirce acknowledges the legitimacy of analysis and the significance of abstractly characterizing the various structural elements of the perceptual process.

The easiest way of understanding Peirce's analysis of this holistic process of perception is to start with Fig. 5.12. It is an adaptation of the semantic dimension of Fig. 5.1 with the components relabeled in order to follow more easily Peirce's discussion of his theory.

To follow Fig. 5.12 better, we will use Peirce's own method, which he calls "precision." It is an act of mental abstraction which "arises from *attention* to one element and *neglect* of the other" (1.549). Delaney says that, "When this analytic intention is focused on the flow of perceptual experience, Peirce is able to distin-

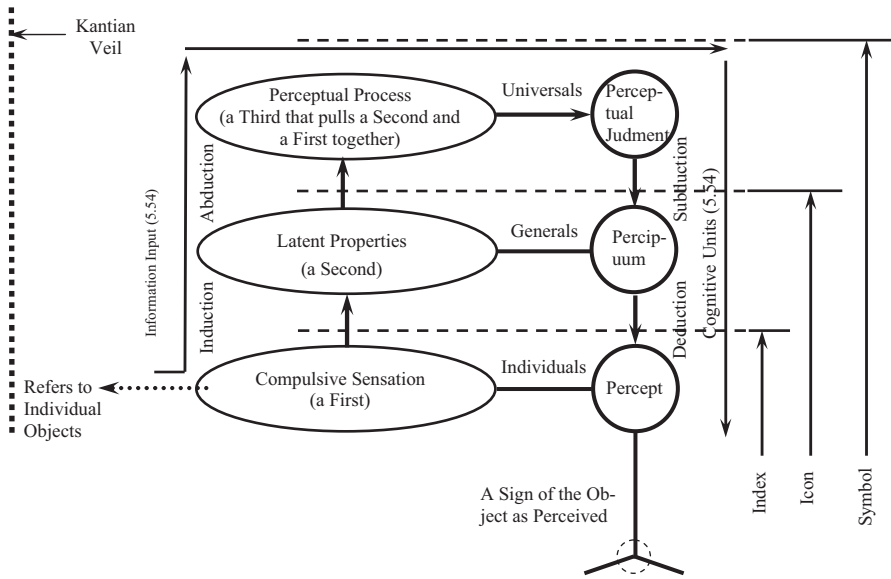


Fig. 5.12 Peirce's philosophy of perception

guish as elements the percept, the percipuum, and the individual perceptual judgment” (1993, p. 120). These three components are shown in Fig. 5.12 as the three internal components of perception.

Delaney says that, “As one prescind the elements from the concrete flow of perceptual experience, the order is from the *perceptual judgment*, through the *percipuum*, to the *percept* as one moves away from the complex phenomenon of meaningful perceptual experience toward what simply confronts one in perception” (1993, p. 121). This follows the sequence shown in Fig. 5.12 from the perceptual judgment, a universal, down to the percept, a concrete singular.

In interpreting the cognitive side of Peirce’s theory of perception, Delaney says, “We come to know facts about our world by means of the perceptual judgment which, through the percipuum, indicates the percept which indicates the physical object” (1993, p. 123).

Delaney does not mention three other semantic components of the perceptual sign that Peirce refers to as external aspects, and which he also lumps together, in the same paragraph (5.54), as information inputs (or II). They are the *compulsive sensation*, the *latent properties*, and the *perceptual processes*. These also occur naturally in the USST as shown by Fig. 5.12.

Peirce claims that a perceptual judgment is initially defined as “a judgment asserting in propositional form what a character of a percept directly presents to the mind is” (5.54). It is the act of forming a mental proposition about some characteristic of the perceptually given, together with an assent to that proposition. The perceptually given stems from the *compulsive sensation*, an external first, an information generator, or an II; the selected characteristic stems from the *latent proper-*

ties, an external second, another information generator, or II; while the proposition stems from the *perceptual process*, an external third, and also an II. The assent to the proposition is the assertive force of the proposition, the illocutionary force of assertion,²¹ and is inserted into the perceptual sign by a link between the perceptual process and the pragmatic structure, which does not show in Fig. 5.12.²²

However, Peirce is quite specific about the precise logical form of perceptual judgments, namely, they are to be regarded as limit cases of abductions: “The perceptive judgment is the result of a process ... [and] if we were to subject this subconscious process to logical analysis, we should find that it terminated in what that analysis would represent as an abductive inference” (5.181).

In the more precise language of the semiotic paradigm, this would read something like, “a perceptual judgment can be represented as a combination of inductive inference from a first (a compulsive sensation) to a second (the latent properties), followed by an abductive inference to a third that pulls the second and first together (the perceptual process), all of which are external information inputs to the perception, followed by the perceptual judgment (a process—one which carries the information inputs to the cognition), yielding finally, a perceptual judgment (the result) which is an internal component of the sign and thus available to the cognition.”²³

Peirce’s perceptual judgment is the internal half of the pronotative level of a symbol. The perceptual judgment (an internal third) is then translated by the pericupum (an internal second) into the percept (an internal first).

Delaney says that, “Perceptual judgments are to be thought of on the model of the ascription of a general predicate to individuals, which would reduce them to some kind of unity and thereby render them intelligible. They have the form of hypothetical interpretations of given elements and are general in nature” (1993, p. 125). Figure 5.12 shows us that the “general predicate” stems from the latent properties while the “individuals” stem from the compulsive sensations, both of which are information inputs and external components of the perceptual sign structure. The “hypothetical interpretations” are due to the abduction from the latent properties to the perceptual process (process—an external third), and the “general nature” of Peirce’s perceptual judgment (result—an internal third) is due to the secondness of the latent properties which forms the external connotative structure of an icon.

Delaney continues, “It is important to note, however, that when we are speaking of perceptual judgments as abductions we are speaking analogously, because these instances of abductions are both subconscious and uncontrolled, characteristics contrary to standard abductions. Strictly speaking, perceptual judgments are not really judgments that we make but rather ones that are forced upon us” (1993, p. 125).

These are not real abductions because they do not proceed from one sign to another but only mimic abductions (pseudo inferences, if you please) by availing

²¹ See perceptual process in Fig. 5.12.

²² See TOS for description of the process that inserts the illocutionary force into the proposition.

²³ See Fig. 5.12.

themselves of the abductive machinery in connecting two external components of the analysis of perception together.²⁴

Perceptual judgments are not available to our control. Delaney says, “In the appropriate concrete circumstances these perceptual judgments are things that happen to us, not things we do” (1993, p. 126).

Peirce says:

You may adopt any theory that seems to you acceptable as to the psychological operations by which perceptual judgments are formed. ... All that I insist upon is that these operations, whatever they may be, are utterly beyond our control and will go on whether we are pleased with them or not. (5.55)

The USST shows that since perceptual judgments are the result of pseudo inferences, we do not have initial signs (called “premises”) available to control, while the final signs (called “conclusions”) are completely determined for us subconsciously by the perceptual process, they are part of the semiosis of perception.

Other Insights into Semantic Theory

But the machinery we have set up to explain the semantic structure of Peirce’s philosophy of perception also serves a dual purpose.

An object is nothing but the simultaneous presence of an infinite and complete collection (I deliberately do not use the technical word “set”) of generals, i.e., properties and aspects, with possibly a little bit of hecceity thrown in for good measure to serve as a kind of glue. Perhaps this is logical positivism’s concept of *infinite porosität*. Most generals do not even have names, unless they are important for human purposes.

And in turn, a general is nothing but an infinite collection (“association” might be a better word?, but certainly not “set”) of universals, i.e., abstractions or concepts with maybe some second kind of glue to hold them together. Again, an explication of *porosität*? As conceptualists, members of the Vienna Circle did not distinguish between generals and universals. Only the universals mankind has found useful have either names or general (i.e., semantic) markers, so we are never fully aware of their presence until they make themselves known in some way.

Thus the USST gives us a semiotic foundation for developing not only a theory of perception but the same foundation also simultaneously explains the philosophy of individuals, generals, and universals, a wonderful integration and consolidation of theory. These suggestions are summarized in Table 5.2, which shows the relations between four domains: (1) the ontology of perception; (2) the epistemology of perception; (3) the ontology of universals;²⁵ and (4) the epistemology of universals.

This study also resulted in another important insight. One that has important bearing on how we must go about doing semiotics, and perhaps even all of science.

²⁴ See latent properties and perceptual process in Fig. 5.12.

²⁵ The so-called problem of universals includes the problem of individuals, the problem of generals, as well as the problem of universals.

Table 5.2 Implications of a USST theory of perception

Semiotic Structure of the Semantic Dimension	Semantic Function	External Structure	Internal Structure	Mathematical Model	Mode of Discrimination	Perceiving	Ontological Status
↑ Symbol	Pronotation	Dynamic Cognitive Mentellect	Immediate Cognitive Mentellect	Protension	Process	Arrangement	Subjective
↑ Icon	Connotation	Dynamic Ground	Immediate Ground	Intension	Similarity	Likeness	Interjective
↑ Index	Denotation	Dynamic Object	Immediate Object	Extension	Physical Stimulus	Object	Objective

Semiotic Structure of the Semantic Dimension	Semantic Function	Cognitive-Function	Meaning Produced	Ontological Result	Concepts	Epistemological Result	Ontology*
↑ Symbol	Pronotation	Conceptualize	Abstract Singulars	Abstraction	Abstract Concepts	Universals	World of Abstracts
↑ Icon	Connotation	Categorize	Concrete Generals	Generality	General Concepts	Generals	World of Generals
↑ Index	Denotation	Individualize	Concrete Singulars	Actuality	Singular Concepts	Individuals	World of Individuals

Relations between signs or sign components are internal in the USST sense and hence involve only phenomena. But phenomena involve the first person point of view. Therefore, semiotics as a science must involve both the first and third person points of view. Hence, semiotics is broader than either traditional science or traditional phenomenology. Semiotics is the science of triadic relations, but the distinction between classical science and classical phenomenology disappears in the requirements of the new theory of semiotics. There is a uniform continuity between the first person point of view and the third person point of view.

It is like drawing a rectangular coordinate system on a two-dimensional plane. Before drawing the *x-y* coordinates, one could only conceive of traveling back and forth in one direction along the *x*-axis (thinking scientifically), or traveling back and forth in the other direction along the *y*-axis (thinking phenomenologically). Classical science was like the *x*-axis and classical phenomenology was like the *y*-axis, but they were distinct domains. After drawing the *x-y* axes as a two dimensional coordinate system, we can wander around in the whole plane and view the problem from any angle that is most convenient for solving it (see Fig. 5.13 for an illustration).

The *Ding an Sich* may or may not have something that looks like individuality, generality, and/or universality. It does not make any difference because we could never know it, or even talk about it, if it did. We could never prove or disprove it, so we might as well simplify our analysis by using the simplest language possible, our ordinary language of intuition.

In the process of perception, our perceptual apparatus causes a sign to be created in the observer and this sign has denotative, connotative, and pronotative structure, causing the perception to have individual, general, and universal characteristics. But these characteristics are in the representation, not in some hypothetical neumenal object. They may or may not also be in the *ding an sich* itself, but this we can never know (see Fig. 5.14 for an illustration).

Fig. 5.13 The semiotic plane allows arbitrary viewpoints, from any balance of science-phenomenology to suit the problem needs

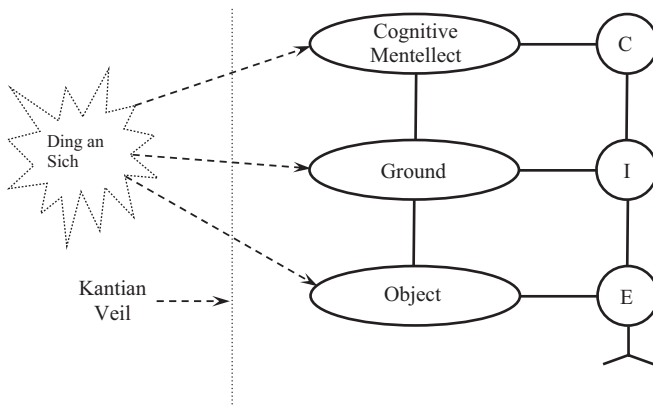
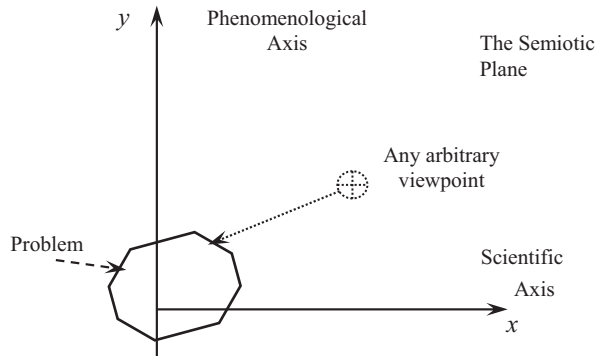


Fig. 5.14 Perception and the semantic structure of the perceptual sign

5.2.2.4 Summary

We thus come to summarize the results and advantages of using the USST as a semiotic theory along with its full context, the semiotic paradigm. And truly, there are so many, as this section has shown, that the only concise summary can be the conclusion that the USST has the power to solve any properly stated problem of static semiotic structure to which it is directed.

The examples given here are only a small selection of those that I and the people known to me have addressed. And what we have addressed must be but a minute fraction of the most interesting problems.

5.2.3 Conclusions and Recommendations

This short survey attempted to present a brief and superficial overview of the USST. It omitted all details and derivations (except for a few theorems in Sect. 5.2.1.2).

The USST is part of the semiotic paradigm and must be understood in the full context of that paradigm, but I believe that the material presented in this chapter was sufficient to provide overwhelming proof of the power of the USST to solve and explain problems and questions regarding the semiotic structure of static signs.

Young and capable scholars, who may be interested in the improvement of intellectual understanding, and perhaps even making an immortal name for themselves in the process, would be well advised to adopt the semiotic paradigm in their efforts to advance the science of semiotics. And those with a theoretical bent could find no better tools than the USST and its TOS companion to which we turn next.

5.3 The TOS²⁶

The USST, was introduced more than 30 years ago (Pearson 1982a, b; Pearson and Slamecka 1977; Slamecka and Pearson 1977), as the theoretical part of the semiotic paradigm (Pearson 1982a, b; Pearson 1983), in order to provide a scientific theory that could explain all the semiotic phenomena associated with the static structure of signs. Although the USST was successful for its intended purposes, it could never explain phenomena associated with dynamic semiotic processes (semiosis).

Now the semiotic paradigm has been expanded to include a second theory that can handle dynamic sign processes. This section will formally present the TOS, provide examples of its use, and make the claim that *the semiotic paradigm is now able to explain all semiotic phenomena*.

Parsing trees and linguistic transformations are too limited to handle all of the processes of semiotics, but trees and transformations are just narrowly restricted forms of mathematical operators. The TOS uses the more general concept of a functor, or operator function, to explain what happens when sign processes take place, thus introducing a theory of semiotic dynamics to accompany the USST which is a theory of semiotic statics.

5.3.1 Background

Bernard Bosanquet, British idealist philosopher (1848–1923), claimed that every proposition can be factored into a predicate about the ideal world. Thus, example (1), which appears to predicate blue of sky as in analysis (2), or even a two place relation predicating blue and sky of the copula as in analysis (3), actually is, according to Bosanquet, predicating a proposition (4), of the ideal world, as in analysis (5). This thesis was picked up by Francis Bradley, another British idealist philosopher of the same period (1846–1924) and made a key point of his theory of logic.

²⁶ A preliminary version of this section appeared as “The Theory of Operational Semiotics” in Pearson (1998).

1. The sky is blue.
2. Blue(sky).
3. Is(blue, sky).
4. the sky being blue
5. The ideal world is such that it can be described by: the sky being blue.
6. The actual world is such that it can be described by: the sky being blue.

Actually, their terminology was already obsolete at the turn of the century (1885–1915) when they were working this out, and we now use “sentence” and “proposition” for far different concepts than what Bosanquet and Bradley meant, but this has little relevance for us here and now (Pearson 1994, 1995).

What is important is that Bosanquet’s analysis does not require an ideal world; it holds for any world or *genre* whatever (thus analysis (6)), and that it does not hold for every sentence but it does hold for every utterance of an indicative sentence in any language. Thus we may call this Bosanquet’s factorization law.

5.3.2 *Factoring the Sentence*

A similar strategy works for any mood, but I would like to use a different example for a very simple reason. One can say both (1) and (7), but it is hard, at least in American, to say (8). This is merely an accident of linguistic history. Therefore, I choose proposition (9) for an example, which, at least in American, is fairly easy to utter in each of the more common moods: indicative, imperative, interrogative, etc.

7. Is the sky blue?
8. * Blue the sky!
9. the door being open
10. The door is open.
11. Open the door!
12. Is the door open?

The factorizations are as follows:

13. The real world is such that it can be described by: the door being open.
14. Endeavor to make the real world such that it can be described by: the door being open!
15. Is the real world such that it can be described by: the door being open?

By all accounts examples (10), (11), and (12) contain the same proposition. Analyses (13), (14), and (15) make it obvious that this is so, a decided advantage for any system of notation. I am not certain, but evidently I am the first to carry out this complete analysis and so I make the universal claim: *Every natural language sentence type can be factored into a mood operator followed by a semantic operator containing a proposition.*

Propositions have been represented variously throughout history, depending on which of their properties it was desired to emphasize. I use the gerundial form to

emphasize that the proposition is an abstract semantic operator rather than a concrete sentence, etc. (Pearson 1994, 1995). Thus, we have the logical form given by expression (16):

16. $\Pi_M : \Pi_S$

where Π_M is a mood operator and Π_S is a semantic operator.

We have not got to the end of our analysis but already it is yielding very surprising results. When we have finished it will motivate an entirely new approach to semiotic theory. For now, we merely need to notice that according to the conventional sequence: syntactic, semantic, pragmatic, we would expect either a syntactic or a pragmatic operator to appear in the final factored position, not a semantic operator. But instead, this is just what we do get. This is indeed unusual. Could we have our categories in the wrong sequence? Should it be syntactic, pragmatic, semantic, or semantic, pragmatic, syntactic? Actually both occur depending on whether we are synthesizing the sign, or analyzing it. What will become clear is that the sequence: syntactic, semantic, pragmatic used by Peirce, Morris, Bloomfield, Chomsky, etc., is wrong (Pearson 1994).

5.3.3 *Factoring the Mood*

The next step is to break down what I have loosely called the mood operator into its component factors. It turns out to be difficult because so much of the structure of the sign is contained in it. One such attempted analysis of the indicative operator showed that two distinct interpreters were required for every sign along with a truth warrant, an epistemic operator, a convention binding operator, etc., such as for instance in analysis (17), with similar analyses for each of the other moods. It seems that all of the meaning contained in analysis (17) is imbedded in the sentential period of examples (1) and (10).

17. $I_S(I)$ WARRANT to $I_T(\text{YOU})$ that I_S am placing myself under all the conventions of LANGUAGE COMMUNITY(L_C) including all punishments for not adhering strictly to all such conventions and that I_S KNOW sufficiently a restricted part of the WORLD(W) as it relates to L_C and that this part of W may be DESCRIBED(D) by:

This showed that each of the moods can be represented by an invariant operator independently of the semantic proposition, and that each semantic proposition can be represented by an invariant operator independently of the mood of the sentence.

At this point, I started to look at an inventory of moods for all of the world's natural languages, and although it appears that there are only a very few moods, or at least combinations of mood factor components, I became sidetracked by another more pressing problem before I could finish this one.

The interference was caused by my becoming aware of the work of the American semiotician, John Searle, and the critical relevance it has for the project of factor-

ing semiotic operators in general. Searle's work relates to the factorization of what I loosely called the mood operator, but concerned not so much mood itself as the pragmatic structure of the sign in its relation to the illocutionary force, a concept developed by the British philosopher, John Austin.

I later learned that an important part of this relation between the pragmatic operator and the illocutionary force concerned the operation of converting a type into a token, so I thus began to look at the structure of the type-token conversion operator as part of the structure of the pragmatic operator and gradually the concept of semiotic factorization started to become clearer. Most importantly, it became clear that unlike the USST, semiosis was involved in every factorization. Thus dynamics suddenly became an important part of theory development.

To finish this brief thought, *all complete utterances have both a mood and an illocutionary force and these are always present and distinct in every rheme token, even when they appear identical in the surface structure of the utterance. The mood is part of the type while the illocutionary force is part of the token.*

After figuring this out, it became obvious that *all sentential utterances can be represented by a pheme operator as in equation (18).*

$$18. \Pi_{ph} = \Pi_X : \Pi_P : \Pi_S$$

where Π_{ph} is a general pheme operator governing pheme tokens, Π_X is a syntactic operator, Π_P is a pragmatic operator, and Π_S is the semantic operator as before. Note, we have arrived at the sequence: syntactic, pragmatic, semantic which is necessary here to make phematic analysis work. Similarly in the case of phematic synthesis, we have equation (19), containing the sequence: semantic, pragmatic, syntactic, just as predicted. There is no way we can force the sequence: syntactic, semantic, pragmatic to work.

$$19. (\Pi_S)^{-1} : (\Pi_P)^{-1} : (\Pi_X)^{-1} = (\Pi_{ph})^{-1}$$

5.3.4 General Semiotic Factorization

We now take a short diversion to look at rheme and doleme operators. All complete communications are dolemes and all dolemes are composed of rhemes, phemes, and other dolemes, so we might expect:

$$20. \Pi_C = \Pi_{D1} : \Pi_{D2} : \dots : \Pi_{D(n-1)} : \Pi_{Dn} \text{ with :}$$

$$21. \Pi_D = \Pi_{ph1} : \Pi_{ph2} : \dots : \Pi_{ph(m-1)} : \Pi_{phm} \text{ and}$$

$$22. \Pi_{ph} = \Pi_{rh1} : \Pi_{rh2} : \dots : \Pi_{rh(l-1)} : \Pi_{rhl}$$

but we have already seen that the Π_{ph} do not have the structure of (22); they factor as in (18). Then, from (18) various of the components factor into rhemes. *The pheme is the central component of dynamic semiotic theory.*

Also, the first doleme of the communication, and several other dolemes as required, have a peculiar structure. I call this the "once-upon-a-time" doleme. All

American fairy-tales begin with the phrase “once upon a time.”²⁷ What does it mean? This peculiar phrase has a very special meaning and a very important function to serve in the overall communication. First of all, it says, “Welcome to the world of the fairy-tale” and so it communicates the *genré*. Now the interesting thing is that the I_T never needs to be reminded of the *genré* again, at least until it changes. And so the communication processor must have some way of remembering the *genré*. We say that it does this in the *genré* register. The *genré* register is part of the sign processor, not part of the sign, or sign process. However, we know that the *genré* can change and actually imbed itself by recursion—the play within a play concept. And so, the *genré* register must be a LIFO stack. I call this LIFO stack *genré* register the “Doleme Stack,” since all evidence suggests there is only one Doleme Stack per interpreter. Now, if this were all the doleme stack had to do, it would be a rather ad hoc kind of concept with no empirical reality. But the fact is that the doleme stack has much more to do than simply store the *genré*, or universe of discourse as it is often called in some contexts. The doleme stack also stores the general time and place of interpretation and the name of all special roles and scripts needed to process all S&BC information. Each of these has a special place in the doleme stack. The set of all doleme variables on a particular recursion level is called a doleme vector, and so the doleme stack is technically structured as a LIFO vector stack.

Now the remarkable observation is that every communication has a similar doleme for its first, and so I call all of these “once-upon-a-time” dolemes. They all have a similar function of loading the doleme stack with the *genré*, time, location, roles, scripts, etc., and so we see that the *doleme stack* is a very general concept required for all forms of semiosis.

As an example, all Sousa marches begin with a four- (or eight-) bar intro that is so characteristic that anyone familiar with Sousa marches, but hearing a new one for the first time can say instantly, “This is a Sousa march. It will start in exactly four (or eight) measures. It will be in the same key as the intro. It will have the same time signature as the intro.” And so the first doleme of every Sousa march says, “Welcome to the world of Sousa marches. The composer (I_T), is John Philip Sousa. Here is the tempo, the key, and the time signature. The march itself will start in just four (or eight) bars.”

Similarly, the last doleme of every communication has a special structure, although this structure is simpler than that of the “once-upon-a-time” doleme. The only function of what I call the “and-they-lived-happily-ever-after” doleme is to pop the current doleme vector off of the doleme stack, thus returning the communication to the previous recursion level. Every communication contains an “and-they-lived-happily-ever-after” doleme as its last doleme. In a Sousa march this would be the Coda. The coda is a short section, usually eight to sixteen bars that sets up a fully resolved cadence to say this is the end of this march—“The End.”

Transformational linguists have worked out much of the structure of the \prod_X for those signs having the structure of a linear text, such as natural language and music. It is easy to see that a linguistic transformation is just an especially simple kind

²⁷ All Chinese fairy-tales begin with the phrase “long, long ago” with the same meaning.

of semiotic operation. Where the grammarians ran into trouble is when they went beyond syntactics and attempted to analyze semantics before they understood the pragmatics.

The pragmatic operator factors as equation (23), much like equation (22).

$$23. \Pi_p = \Pi_{rh1} : \Pi_{rh2} : \dots : \Pi_{rh(l-1)} : \Pi_{rhl}$$

Some of the individual operators in equation (23) include the tense and aspect operator, \mathcal{A} ; the voice operator, Λ ; the type-token conversion operator, δ ; the illocutionary force operator, I ; and the focus operator, f . However, mapping the specific location of each of these operators is very much like mapping out the location of each of the genes in the Human Genome project.

One function of δ is to read the real world and the doleme stack and drop the specific conversion time, t_c , place, manner of interpretation and the value of I_S into the pheme stack, another LIFO vector stack similar to the doleme stack. \mathcal{A} must appear to the left of δ because one of its functions is to read the value of t_c from the pheme stack and compare it to a set of times in the proposition (those times when the proposition is true). In simple tensed languages without aspect, like American, the set of time values may be represented by a single closed interval, $[t_p, t_d]$. In such languages, \mathcal{A} also has a simple form. It makes the following simple determination:

24. $t_c < t_i$: $\text{Verb}_{\text{IIS}} \rightarrow \text{Verb}_{\text{IIS}} + \text{FUTURE}$
25. $t_c > t_f$: $\text{Verb}_{\text{IIS}} \rightarrow \text{Verb}_{\text{IIS}} + \text{PAST}$
26. ELSE: $\text{Verb}_{\text{IIS}} \rightarrow \text{Verb}_{\text{IIS}} + \text{PRESENT}$

The markers *FUTURE*, *PAST*, and *PRESENT* are later interpreted by the appropriate syntactic transformations to yield a tensed surface structure. These markers were introduced into transformational grammar in an ad hoc fashion with no theoretical explanation or even any motivation other than the need to explain some grammatical relations. Now we see that they arise from semiotic functors in a natural way out of the semiotics of pragmatic structure.

5.3.5 Theory of Operational Semiotics

We have now developed enough background to motivate our study of the TOS. The theory of operational semiotics is abbreviated as TOS. The TOS is intended to explain sign dynamics, or semiosis. It fits within the semiotic paradigm (Pearson 1982a, b; Pearson 1983), as a second theory that complements the USST rather than competing with it. The TOS starts by assuming one basic principle in addition to the three principles of the USST (Pearson and Slamecka 1977; Slamecka and Pearson 1977). All sign processes, all transformations, all changes in sign structure whatever can be represented by an operator which transforms an initial sign into a final sign. Equation (27) is called the “Dynamic Principle.”

$$27. \Psi_f = \Pi_{f,in} : \Psi_{in}$$

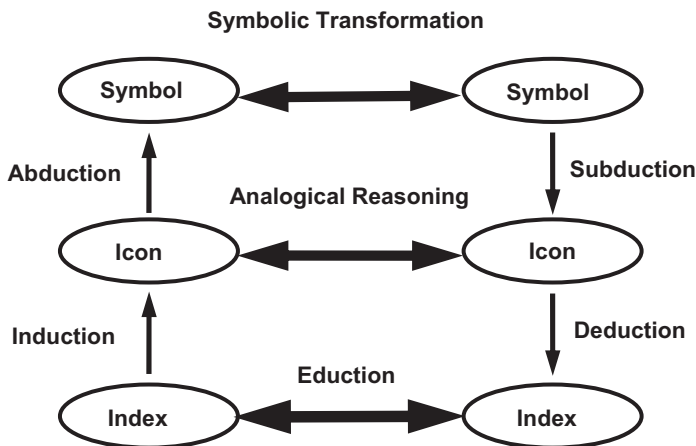


Fig. 5.15 The ladder diagram of semantic reasoning. (After Pearson (1993c, p. 309))

where Ψ_f represents the final sign, Ψ_{in} the initial sign, the structure of Ψ_f and Ψ_{in} are given by the USST, and $\Pi_{f, in}$ represents the operation of changing Ψ_{in} into Ψ_f . This implies that USST explains the static structure of sign systems, the TOS explains their dynamic properties, and the USST acts as a set of boundary conditions on the TOS.

In many analyses, the structure of the Ψ are assumed given and fixed. In such cases, the entire process is characterized by the $\Pi_{f, in}$ and all attention is devoted to the study of $\Pi_{f, in}$. Such for example is the case with the study of induction:

$$28. \Psi_{KS} = \Pi_{ind} : \Psi_{IS}$$

where Ψ_{KS} is an iconic symbol and Ψ_{IS} is an indexical symbol. The problem is to completely characterize the induction operator, Π_{ind} .

There are similar ways of studying abduction, subduction, deduction, analogical reasoning, and symbolic transformation (Pearson 1993). When this is done, the following amazing diagram is uncovered, which I call the “ladder diagram of semantic reasoning,” see Fig. 5.15.

Equation (18) implies that pheme processes are represented by equation (29):

$$29. \Psi_f = \Pi_X : \Pi_P : \Pi_S : \Psi_{in}$$

This may, in fact, be trying to tell us that conversion from a tone to a token takes place in exactly the same sequence, with the same structure as equation (30):

$$30. (30a) \Psi_{ph,K} = \Pi_X : \Psi_{ph,T}$$

$$31. (30b) = \Pi_X : \Pi_P : \Psi_{ph,N}$$

$$32. (30c) = \Pi_X : \Pi_P : \Pi_S : \Psi_{in}$$

which implies that we could separate phematic analysis into three distinct stages:

$$33. \Psi_{\text{ph,K}} = \Pi_X : \Psi_{\text{ph,T}}$$

$$34. \Psi_{\text{ph,T}} = \Pi_P : \Psi_{\text{ph,N}}$$

$$35. \Psi_{\text{ph,N}} = \Pi_S : \Psi_{\text{in}}$$

in which case, one is sorely tempted to identify equation (33) with Chomsky's program of transformational syntax and to predict two other associated programs: operational pragmatics associated with equation (34); and operational semantics associated with equation (35). This theory very strongly suggests that linguists and other semioticians should deliberately tackle the development of a science of pragmatics after the development of syntactics (as in transformational grammar) and before attempting systematic development of a science of semantics.

5.3.6 *Words to World Flag*

Each pheme contains an operator whose job is to signal whether the intention of I_S is for the pheme to match the world, or to force the world to match the pheme. For instance, an indicative sentence uttered in its normal use is normally intended to match the world. If it does not, it is a mistake at best and a lie at worst. But an imperative sentence uttered in its normal use is intended to get the world matched to it. If the world does not come to match the imperative utterance, it may have been ineffective, but never a lie.

This operator has either two or three values: "words to world"; "world to words"; and possibly "don't care, or not applicable." Searle has pointed out the importance of this operator for the study of illocutionary force in natural language (Searle 1979). James also pointed out its role for mood in his study of the English subjunctive (James 1986). It is just as important in nontextual, nonlinear sign systems, such as painting.

The words to world operator contains within its expansion a truth/falsity operator. Whenever the words to world flag points in the words to world direction, the truth/falsity operator is inserted into the operator expansion string and its job is to test whether the words do indeed match the world and if so it issues the value true and otherwise it issues the value false.

This means that the flag operator must contain a pointer to the value of the world/genré variable on the doleme stack, so that the truth operator knows how to find the current value of the world variable so later it can tell what world to test (real world, world of fairy tales, world of Sherlock Holmes, world of ghost stories, etc.). The words to world operator is probably contained in the expansion of the mood operator and in turn it contains an operator that establishes a linkage between the proposition in the semantic operator and another operator that tests for a match between the two, as well as the truth/falsity operator and the pointer to the doleme stack discussed above.

5.3.7 Theory of Intention, Intentionality, and FEMs

In Sect. 5.3.4, I likened the complexity of mapping the various detailed operators in any practical sign process to unraveling the human genome. Many investigators have already started to do this. I already referred in Sect. 5.3.4 to the work of transformational linguistics as working out the details of \prod_x for sign systems having the structure of linear text. Other groups working on this problem include the speech act theorists, especially its founder, Searle (1969), and the logical semanticists, especially Grice (1975). Tools that are available for the semiotic analysis of the operator string include philosophical analysis, logical analysis, speech act theory (SAT), discourse theory, transformational grammar, linguistic semantics, linguistic pragmatics, cognitive science, and artificial intelligence. Among these, Grice's conversational postulates and Searle's felicity conditions, rules, dimensions, etc., are especially useful with a very important caveat. Grice's conversational postulates contain a mixture of tone concepts, type concepts, and token concepts all intermingled. I expect that the conversational postulates will factor into at least three subsets referring to tone operators, type operators, and token operators. Similarly, Searle's analysis contains a mixture of tone, type, and token concepts. If these are distinguished, Searle's tools become much more powerful.

One area of semiotic operator string theory that has been developed extensively is SAT. A speech act contains an illocutionary point, followed by an intentional attitude, followed by illocutionary force indicating devices, followed by the propositional content. Illocutionary points are such things as asserting, reporting, promising, warning, etc., i.e., the purpose for which the source interpreter creates the sign. Intentional attitudes express a psychological state, such as believing, intending, wishing, etc. Illocutionary force indicating devices are conditions that require the propositional content to suitably match the illocutionary act and the intentional attitude. And the propositional content contains the abstract proposition along with modal operators, generalization operators, abstraction operators, such as Church's λ , along with other propositional operators.

If we let F stand for the illocutionary force of the speech act; I stand for the illocutionary point; S stand for the psychological state; C , for the illocutionary force indicating devices; \sim , for the propositional operators (such as negation); m , for the modal operators; P , for the predicate operators; and s , for the subject operators, then we can represent the speech act, or at least its illocutionary force, by:

$$36. F=I(S(C(\sim(m(P(s)))))),$$

as long as we insist that the notation does not imply simple functionality in the strict mathematical sense, although, it must be admitted that there is a strong feeling of some kind of functional dependence hinted at by this representation. For this reason, it is better to use an operator notation, so we write:

$$37. \prod_F=\prod_I; \prod_S; \prod_C; \prod_{\sim}; \prod_m; \prod_P; \prod_s$$

for the structure of a general speech act. In this representation, $\Pi_{\cdot}:\Pi_m:\Pi_p:\Pi_s$ corresponds roughly to Π_s in the notation of equation (18), and $\Pi_I:\Pi_S:\Pi_C$ to part of Π_p in the same notation, along with $\mathcal{E}, A, \delta, I, f$, and others. The words to world flag, discussed above, is contained in the state operator, Π_s , of equation (37).

Now, a very important sign system is intentionality, including all intentions and FEMs (feelings, emotions, and psychological moods). Semioticians have not always recognized that these all fit together in one system. In fact, one of the saddest legacies of the modern age is the separation of intentionality from emotionality along with the separation of mind from body, and science from religion. Semioticians have wrestled with the theory of intention and intentionality for years, but without any good notation for representing intentions, the job has been slow and difficult. The operator string notation employed by the TOS gives us the desired representation. In fact, all we have to do is drop the illocutionary point operator from the front of the right hand string of equation (39) and we have the TOS representation of intentions, intentionality, and FEMs as in equation (38), where Π_N is the operator expression for intentionality.

$$38. \Pi_N = \Pi_s : \Pi_C : \Pi_{\cdot} : \Pi_m : \Pi_p : \Pi_s$$

Suppose the operator **P** is the value of **S** that stands for the psychological state of surprise (not the word “surprise”), likewise the operator **U** the value of **C** that stands for the conditions that relate surprise to unexpected events, **H** the value of **P** that stands for the condition (not the assertion of a condition) of being in my home, and **B** the value of *s* that stands for a burglar (again, not the word “burglar”), then equation (39) represents the feeling of surprise at encountering the unexpected event of a burglar being in my home. This feeling need never be asserted, nor even expressed silently to oneself. It may remain just a raw, unexpressed, feeling of surprise. And yet equation (39) shows that the TOS has the ability to handle even this ephemeral kind of sign.

$$39. F = P : U : H : B$$

Now, intentions have often been defined as internal psychological states that relate to objects, events, or conditions in the external world, while emotions have been defined in some instances as simply “a rush of hormones.” So, it may be surprising to find that equation (38) will handle FEMs as well by the simple expedient of defining various operators in expression (38) as either null or identity operators. For instance, if **D** is the value of **S** that stands for the psychological state of being depressed, equation (40) represents the feeling, or emotion, of being depressed.

$$40. E = D : 1 : 0$$

Not all feelings and emotions have trivial values for Π_C , Π_p , and Π_s , however. The language for discussing intentions, intentionality, and FEMs is notoriously imprecise. Many feelings behave more like propositional attitudes, while many others behave more like emotions, while some even behave like internal perceptions. One advantage of the more precise language and more powerful theory of the TOS is that

it should help to sort out and systematize much of our observation and understanding of FEMs.

Another advantage of the TOS, not shared by any of its competitors, is the additional insight that the TOS gives into the semiotic interpretation of the sign and its relation to the source interpreter, I_S . For instance, SAT represents the utterance (41) as an assertion of the proposition (42). This explains the linguistic and grammatical properties of (41) very well, but also represents I_S as a disinterested party with no more personal involvement with (42) than if he had uttered (43) as an assertion of (44). What is needed here is an acknowledgment of the very special first person, subjective, relation existing between I_S and his feeling of sadness that cannot be experienced or shared when he asserts someone else's sadness. Now, this is just what the TOS does when it lets S be the value of \mathcal{S} that stands for the psychological state of sadness (not the word "sad," nor even the proposition 'being sad'), and explains (41) by (45), and the assertion of (41) by (46), the assertion of G .

- 41. I'm sad.
- 42. my being sad
- 43. Tom is sad.
- 44. Tom's being sad
- 45. $G=S:1:0$
- 46. $\perp:G$

We thus see that by bringing each of the components of the USST diagram into the representation as an operator, the TOS gains in both power and flexibility in ways that no other semiotic theory can do, especially a theory like SAT which is limited to such a narrow semiotic domain as natural language.

5.3.8 *Boundary Conditions*

The weakest part of the TOS at this time concerns the lack of knowledge about the boundary conditions on operator string representations of semiotic processes. The boundary conditions are determined by the requirement that the operators have to operate on sign structures and that the sign structures are represented by USST diagrams, however, much study needs to be given to the detailed relations between the TOS and the USST. As one very hypothetical example, the USST explains semantic structure as having three distinct levels, the extensional, the intensional, and the protensional. These determine the behavior of indexes, icons, and symbols (in corresponding order), and also individuation, generalization, and abstraction (in the same order; Pearson 1999). We might expect the semantic operator \mathbb{I}_S to factor into three separate operators, in the same order. To date, the details of how to do this have not become clear. However, as suggested above, it may be best to postpone semantic investigations of this type until much more is known about the structure of the pragmatic operator, \mathbb{I}_P . In the meantime, there is much to do to investigate the boundary conditions relating \mathbb{I}_P to the pragmatic dimension of USST diagrams.

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Charls Pearson is the Director of Research for the American Semi classification schemes, for signs. Of the otics Research Institute. His research interests include the philosophical and scientific foundations of semiotics, experimental semiotics, theoretical semiotics, mathematical semiotics, as well as applied semiotics in the areas of information science, logic, theology, linguistics, philosophy, psychology, semiotics of music, and semiotics of law. He is the developer of the semiotic paradigm. He discovered many of the laws of semiotics and has invented many semiotic instruments. He is a student of the works of the American philosophers Charles Peirce and Charles Morris. He served as the People’s Ambassador to China for logic, semiotics, and Peirce studies from 2001 through 2012. He is a member of the Development Committee for the Peirce Edition Project at Indiana University-Purdue University at Indianapolis’s Institute for American Thought,

Indiana University-Purdue University; a member of the Advisory Board for the Center for Studies of Dewey and American Philosophy at Fudan University; Chair of the Advisory Board for the Center for Studies of Peirce and American Philosophy at Wuhan University; and Chair of the Advisory Board for the Center for Semiotics Research at the Chinese Youth University for Political Science. He has published more than 200 books, chapters in books, research papers, white papers, conference reports, and journal articles, all on either the science or the application of semiotics.

Chapter 6

Visions of the Other and Free Indirect Speech in Artistic Discourse: Bakhtin, Pasolini, and Deleuze

Augusto Ponzio and Susan Petrilli

6.1 Free Indirect Speech

Philological and linguistic studies on the forms of reported speech, in particular *free indirect speech*, play a central role in the problem of the relationship between one's own vision and someone else's vision, whether a question of the ordinary utterance, the literary text, or the novel.

Pasolini (1972, pp. 81–103) dedicates a whole essay in *Empirismo eretico* to free indirect speech and returns to the problem on several occasions in his reflections on “how to make films.” He takes free indirect speech as a model to create what he calls “free indirect subjective” (“*soggettiva libera indiretta*”), where different visions encounter each other and interact. In his studies, Pasolini refers to Giulio Herzeg, author of *Alcune costruzioni assolute in italiano* (1948), *Saggi linguistici e stilistici* (1972), *Dizionario italiano ungherese*, and in particular to Herzeg's analyses in *Lo stile indiretto libero in italiano* (1963).

Herzeg's book has recourse in particular to studies by the Austrian philologist and critic Leo Spitzer. Under the influence of the philologist Karl Vossler and Benedetto Croce, Spitzer had created a sort of synthesis between linguistics and literary criticism. Herzeg also makes use of Nicola Vita's work on *erlebte Rede*, Vittorio Lugli's reflections on free indirect speech in Flaubert and Verga, and Charles Bally's “pioneer” studies on free indirect speech (publishing an article in 1912 in the journal *Germanische-romanische Monatsschrift*, IV, and another, “Figures de pensée et formes linguistiques”, in 1914, in issue VI of the same journal, in reply to Theodor Kalepky). Another book taken into consideration by Herzeg is *Le style indirect libre*, 1926, by Marguerite Lips, Bally's alumna. He also referred to considerations made by the German linguist cited above, Theodor Kalepky—who

A. Ponzio (✉) · S. Petrilli
The University of Bari “Aldo Moro”, Bari, Italy
e-mail: augustoponzio@libero.it

S. Petrilli
e-mail: susan.petrilli@gmail.com

had already criticized Bally's interpretation of free indirect discourse in early 1913. Another reference is Eugen Lerch who, in 1914, with Gertraud Lerch (both followers of Vossler) also contributed to the discussion on free indirect discourse. E. Lerch describes the latter as "speech as fact" (*Rede als Tatsache*) to indicate that in free indirect discourse the author himself communicates the word of the other as though it were a fact (see Lerch 1920).

The interplay between one's own word and someone else's word, therefore free indirect discourse where such interaction is most evident, is the central theme in Part III of *Marxism and the Philosophy of Language*, by Valentin N. Vološinov (I ed. 1929, II ed. 1930; Eng. trans. 1973; It. trans. 1976). *Marxism and the Philosophy of Language* is a decidedly Bakhtinian text and—with another monograph by Vološinov, *Freudianism. A Critical Sketch* (1927), as well as other essays published between 1926 and 1930—may be considered as an expression of the Bakhtin Circle.

In what follows, we refer to the third part of *Marxism and the Philosophy of Language*, "Toward a History of Forms of Utterance in Language Constructions," now available in an Italian translation as an independent volume titled *Parola propria e parola altrui nella sintassi dell'enunciazione* (One's own word and the other's word in utterance syntax) (Bakhtin and Vološinov 2010; now in Bakhtin e il suo Circolo 2014).

Vološinov took an interest in the Bakhtin Circle in 1919. Subsequently, he worked toward his doctorate at the Institute of Oriental and Occidental Languages and Literature (ILJaZV), in Leningrad, where he studied with Lev Jakubinskij and Vasilij Desnickij. He presented his research project for the years 1927–1928, supervised by Desnickij and N. Jalole, and as the topic of his research indicated the relation between one's own word and the word of the other.

Anyone familiar with the section titled "Discourse in Dostoevsky" in Bakhtin's monograph *Problems of Dostoevsky's Poetics* (whether the first 1929, or second 1963 edition), or with *Estetika slovesnogo tvorčestva*, 1979 (It. trans. *L'autore e l'eroe*, 1988), will immediately recognize this theme as "Bakhtinian." The research project presented by Vološinov is titled "Transmission of the word of the other," and essentially corresponds to Part III in *Marxism and the Philosophy of Language*.

Interference between one's own word and someone else's word increases significantly in free indirect speech, creating the phenomenon of *dialogism internal to the word*, internal to the same utterance. *Internal dialogism* was a central interest among members of the Bakhtin Circle and is what Bakhtin had in mind when he spoke of "dialogue." "Dialogue"—notwithstanding widespread misunderstandings concerning Bakhtin's interpretation of the term—means something completely different from what is commonly understood. Indeed, in Bakhtin's sense, its meaning is *inversely* proportional to the common understanding: In fact, the more dialogue is limited to external dialogue among rejoinders, formal dialogue, like dialogue among characters in dramatic genres, and the less there is dialogue in the Bakhtinian sense, that is, in the sense of dialogue internal to the same utterance (see Bakhtin 1981; Ponzio 2010).

Vološinov refers to free indirect discourse, which he indicates with the expression "*nesobstvennaja prjamaja reč*," "improperly direct discourse," which is the name introduced by Gertraud Lerch ("*uneigentliche direkte Rede*") for what today

is generally known as free indirect discourse. The expression *quasi-direct discourse* appears in the 1973 English translation of *Marxism and the Philosophy of Language*. Instead, the expression *discours indirecte libre* appears in the 2010 French edition, which is analogous to the expression *discorso indiretto libero* used in the 2010 Italian translation cited above. Vološinov's analysis begins from an essay published in 1887 (in *Zeitschrift für Romanische Philologie*, XI) by the Swiss philologist Adolf Tobler, in which he rejects the latter's interpretation of free indirect discourse as "*eigentümliche Mischung direkter und indirekter Rede*," "original mixture of direct and indirect discourse."

Instead, Vološinov places particular importance on the thesis maintained by Theodor Kalepky (*Zeitschrift für Romanische Philologie*, XIII, 1899) who recognized free indirect discourse as a third, absolutely independent form of reported discourse, defining it as "*verschleierte Rede*" ("veiled discourse").

Vološinov then goes on to discuss the position held by Charles Bally and by the "Vosslerians": Eugen Lerch who, as observed above, characterizes free indirect discourse in his discussion with Bally as "*Rede als Tatsache*," "speech as [narrated] fact"; Etienne Lorck, author of the little volume *Die "Erlebte Rede"* (1921), who defines free indirect discourse as "experienced discourse" (*erlebte Rede*), in contradistinction to direct discourse, defined as "repeated discourse" (*gesprochene Rede*), and indirect discourse which is "communicated discourse" (*berichtete Rede*); and, finally, Gertraud Lerch who assigns an important role to empathy (*Einführung*) in her explanation of free indirect discourse, indicated as "*uneigentliche direkte Rede*" (semi-direct discourse).

6.2 Utterance Syntax and Free Indirect Discourse

In Part III of *Marxism and the Philosophy of Language*, the interest in free indirect discourse is not so much of a stylistic order, nor a question of poetics, as in Bakhtin's *Dostoevsky*. The second edition (1963) was entitled *Problems of Dostoevsky's Poetics* (It. trans. *Dostoevskij. Poetica e stilistica*, 1968), rather than as the 1929 edition, *Problems of Dostoevsky's Work* (It. trans. *Problemi dell'opera di Dostoevskij*, 1997).

The problem of the relation between one's own word and the word of the other is mainly a problem of the linguistic order and is fundamental for *linguistics of the utterance*. Both Bakhtin's book of 1929 and Vološinov's, published that same year, converge on this point, even using the same terminology and argumentations.

Unlike the sentence, the dead cell of language, which is generally the object of study by linguistics, whether taxonomical or generative transformational linguistics, the word, even when a question of the basic unit, the utterance, the live cell of speech, is always involved with the word of others, because the word implies listening, is realized in listening, the word responds and calls for a response.

On the level of sense, the basic unit is the utterance, because only an utterance can elicit responsive understanding. The utterance is contextualized, belongs to

someone, and is addressed to someone; it is endowed with implied meaning, is accentuated, and is finalized to expressing something. All this is absent in the sentence whose meaning or possible meanings can only be understood by imagining it as a possible utterance, investing it with all the abovementioned characteristics of the utterance, that is, by conferring a possible sense upon it.

The question of reported discourse is mainly a question of *syntax*, precisely the *syntax of the utterance*, given that the utterance lives in the encounter among words. Syntax of the sentence is one thing; syntax of the utterance is completely different. The utterance necessarily involves encounter of the word with the word of the other, even more so, obviously, when a question of reported discourse.

To consider the relation between the reported word and the reporting word from a linguistic point of view instead of, or not only, from the stylistic means to consider how particular reception and transmission modalities of the discourse of others are sedimented in language, and how this process varies from one language to another and according to the historical era (see Graffi 1991).

It could be claimed that here the problem of listening becomes *the problem of listening according to the modalities of a given language (lingua*, that is, historical natural language). In other words, it is a question of examining the attitude a given language takes toward the word of the other and, therefore, of considering the instruments it provides on a syntactic level to receive and transmit the word of the other.

To report someone else's word means that the word must necessarily activate connections and combine with the word of others: This necessarily involves problems of syntax. In fact, encounter between one's own word and someone else's word, the interaction among words, is especially obvious in syntax. And how reception and transmission of someone else's word is oriented, the capacity for listening, and the constitutive dialogism of the utterance all emerge most clearly in the syntax of reported discourse—direct, indirect, and free indirect.

However, as stated, it is above all in free indirect discourse that interference between one's own word and the word of the other becomes significant, giving rise to *dialogism internal to the word*. Internal dialogism is the main focus of the Bakhtin Circle and is what Bakhtin understands by "dialogue." Therefore, this term assumes a completely different, even opposite, meaning from common understanding. It is worth repeating that external dialogue among rejoinders is one thing, that is, dialogue as a literary genre, like dialogue of dramatic dialogues, while dialogue in the Bakhtinian sense, that is, dialogue internal to the same utterance, is another (see Bakhtin 1986).

The Russian language, the language of Bakhtin and Vološinov, is not endowed with *consecutio temporis*, so that, as they both observe, in Russian indirect discourse does not have its own distinctive character. This favors, more than in other languages, interaction and interpenetration between the reporting word and the reported word, as well as the transition from indirect discourse (in reality from direct discourse and its variants, given that there is hardly any difference with respect to indirect discourse) to free indirect discourse.

But precisely because of this, free indirect discourse, the third autonomous form of reported discourse, should not be confused with some of the variants of direct and indirect discourse. An important contribution in the third part of *Marxism and the Philosophy of Language* consists in characterizing the specificity of free indirect discourse as the third type of reported discourse. The difference is evidenced with respect to the variants of direct and indirect discourse, with which it can be and in fact is confused. However, as demonstrated by Vološinov through a series of concrete examples, those very forms of indirect discourse which are easily confused with free indirect discourse because of the lack of specific syntax, as occurs in the Russian language, provide the ground for the birth and development of free indirect discourse.

Interference between the reporting word and the reported word—each with a different sense but connected in the same syntactical structure—involves a certain deformation of the normal syntactical physiognomy of indirect discourse, especially in languages that respect the principle of *consecutio temporis*. In this case, the same utterance “must serve two masters”; in other words, it belongs simultaneously to the reported word and the reporting word.

Denominations of this type of reported discourse, such as *improper direct discourse* or *semi-direct discourse* or *free indirect discourse*, reflect the itinerary, therefore the origin through which it was formed in the different languages—German, Russian, French (these are the languages considered by Vološinov and Bakhtin), Italian....

Apropos free indirect discourse, Vološinov speaks of the “inter-referential fusion” of two discourses whose intonation is oriented in different directions. He believes that this form of reported discourse is particularly important in the study of utterance syntax, and even dedicates a whole chapter to it, the third and last, discussing different interpretations, in particular that proposed by Charles Bally and Vossler’s school—Theodor Kalepky, Eugen Lerch, and Gertraud Lerch.

But, as anticipated, in the first place, Vološinov makes a point of differentiating certain variants of direct and indirect discourse from free indirect discourse. These variants are easily confused with free indirect discourse causing it to lose its specificity as a third form of discourse in itself, a third linguistic form of reported discourse. These variants include “substituted direct discourse” which consists in speaking in someone else’s place, as in the famous example of the “addio di Lucia al suo paese,” in the *Promessi sposi* by Alessandro Manzoni. This variant comes very close to free indirect discourse, with the difference that in substituted direct discourse one’s own word and the word of the other do not interfere with each other. This is because the reporting word coincides with what someone else could have or should have said. Consequently, the grammatical and stylistic signs that characterize free indirect discourse, which are generated by the interplay between reported and reporting discourse, are also lacking.

Vološinov’s examples are taken from Puškin; he evidences that characterization of a character’s “substituted discourse” simply occurs on a semantical level and concerns the meaning of words. However, there is no interference between discourses that are *differently oriented*, nor are there traces of resistance and retroaction

from someone else's word in the author's reporting discourse. But precisely through Puškin, it can be observed how substituted discourse can give rise to the free indirect form, and how at a certain point in the evolution of the Russian language, it contributed to the assertion of free indirect discourse as a form in itself.

According to Vološinov, free indirect discourse is not a "simple mechanical mixture" or "arithmetical sum" of two forms, but a "completely *new*, positive tendency in active reception of someone else's utterance, a *special orientation* in the dynamics of the interrelation between the author's word and someone else's word" (Vološinov 1973, p. 142, modified following the Italian translation in Bakhtin and Vološinov 2010, p. 142).

Nor is it merely a stylistic expedient invented by an author to report someone else's word. Here, we find considerations quite similar to Ludwig Wittgenstein's on the subjective, private possibility of inventing what a language (*lingua*, historical natural language), public ordinary language (*linguaggio*), has not foreseen. It is not possible to explain, as instead Adolf Tobler proposes, the invention of a new linguistic form on the basis of the speaker's reasoning. On such a basis, what can be explained is merely the use in one or another concrete instance of an *already available* form, but under no circumstances will it do to explain the composition of a *new* form in language. The individual motives and intentions of a speaker can take meaningful effect only within limits imposed by current grammatical possibilities on the one hand, and within the limits of the conditions of socioverbal intercourse that predominate in his group on the other. These possibilities and conditions are *given*—they are what circumscribe the speaker's linguistic purview. It is beyond the speaker's individual power to force that purview open (Eng. trans. Vološinov 1973, p. 143; It. trans. Bakhtin and Vološinov 2010, p. 143).

Given historical–social conditions are necessary, involving a certain way of perceiving and, therefore, of reporting the word of the other, for the assertion of free indirect discourse as a form foreseen by language and traceable, therefore, in the work of a given author. This is the case of La Fontaine, and according to Werner Günter (see Giulio Herczeg, *Lo stile indiretto libero in italiano*, 1963) free indirect discourse can already be traced in Ariosto (Günter claims to have found approximately 60 examples of free indirect discourse in *Orlando furioso*), and in Dante, as Pasolini (1972) shows in his analysis of the Paolo and Francesca episode in the *Divine Comedy*. As Vološinov claims:

No matter what the intentions the speaker means to carry out, no matter what errors he may commit, no matter how he analyzes forms or mixes them or combines them, he will not create a new pattern in language and he will not create a new tendency in socioverbal intercourse. His subjective intentions will bear creative character only to the extent that there is something in them that coincides with tendencies in the socioverbal intercourse of speakers that are in the process of formation, of generation; and these tendencies are dependent upon socioeconomic factors. (Eng. trans. Vološinov 1973, p. 143; It. trans. Bakhtin e Vološinov 2010, p. 144)

Particular social conditions cause certain orientations toward someone else's word to dominate over others. These become "grammatical" in a given language, rise to the status of syntactical models, and determine how the speakers of that language

will perceive and transmit the word of the other. In other words, whether these crystallized forms last, how these models influence speaker behavior also depends on historical–social factors. A change in the historical–social conditions that formed these models is immediately reflected in them, transforming them: At the very least, their regulatory and inhibitive function is weakened, widening the range in variations relative to a given model. In free indirect discourse, factors conditioning the possibility of dialogic interference between two voices in the same word include: crisis in dominant ideology, the collapse of unidimensional culture to the advantage of a pluralistic vision of reality, transformation of a given social system, and its contradictions which emerge ever more insistently.

A language (*lingua*, historical-natural language) can influence the dynamics in the relation between the reported word and the reporting word. For example, it can facilitate portrayal of someone else's word by making sure it is clearly distinguished from the reporting word and is characterized stylistically, or it can account for the content of discourse more than for its peculiar formal characteristics. The syntactical rules of a language implemented by the reporting word can require that this word be a univocal objectifying word, a mere instrument of representation, an external, absolute point of view, or they can favor the possibility of making the two voices resound differently, the voice of the other, of the reported word, and the author's voice, the voice of the reporting word. Relativization of the word of the other and of reporting discourse implies availability, on the level of historical-natural language, of syntactic forms able to soften the borders between authorial context and the reported word, or even cancel the distinction between a represented word and a representing word that is not in turn represented. From this point of view, the role carried out by the free indirect discourse model is truly noteworthy.

In fact, as Pasolini claims, free indirect discourse is generally “the sign of an ideology”; “it implies a sociological consciousness in the author, whether this is clear or not” (Pasolini 1972, p. 88): Free indirect discourse is a sign of given socio-ideological conditions; it is the expression of confrontation among different languages, styles, and ideologies; it relativizes points of view, desecrating the monological word. What Pasolini observes apropos free indirect speech in Dante and in Ariosto is particularly significant in light of the role assigned to it by Bakhtin in the dialectics between monologism and polylogism:

Che nell'Ariosto ci sia il discorso libero indiretto è un fatto così storicamente significativo e imponente, che non ci si può limitare a constatarlo, come una curiosità o un titolo di merito rispetto a La Fontaine. Si vede che c'è stato un momento nella società italiana con delle caratteristiche che poi si sono ripetute in modo più o meno vasto e stabile un secolo e mezzo dopo in Francia, ecc. ecc. [...] La lingua dell'Ariosto è inscindibile: le sfumature non hanno soluzione di continuità, e formano una continuità tra la lingua feudale e la lingua borghese, tra la lingua delle armi e la lingua del commercio e delle banche. [...] *Il discorso che l'Ariosto rivive è quello di se stesso borghese.* [...] Il gioco è fra linguaggio alto e linguaggio medio: una sfumatura infinita, dove la coscienza sociologica non è che un'ombra, potente, che ombreggia del resto e dà rilievo a tutto il meraviglioso gioco dell'ironia aristotesca. [...] Neppure casuale è l'uso del libero indiretto in Dante. La sua presenza nella *Divina commedia* è espressione delle particolari contraddizioni linguistico-ideologiche proprie delle società comunale. (Pasolini 1972, pp. 84–85)

Vološinov expresses himself in similar terms when he observes that in order to achieve free indirect discourse—a completely different form of perception and transmission of the word of the other—some displacement would be necessary, a shift in socio-verbal communication and with regard to mutual orientation of the utterances. Only once this form has gradually developed and enters the field of linguistic possibilities can the expressive intentions of individual speakers find definition, motivation, and productive implementation within its boundaries (see Vološinov 1929, Eng. trans. 1973, p. 143; It. trans. Bakhtin and Vološinov 2010, p. 144).

Vološinov, as mentioned above, considers free indirect discourse as a third and absolutely independent form of reported discourse, and from this point of view is in accord with Kalepky who made the same claim. He defines free indirect discourse as *hidden or veiled discourse* (*verschleierte Rede*), observing that on the face of it the person who speaks converges with the author, but from the point of view of the real sense of the overall context, the person who speaks is, instead, the author. However, in contrast to Kalepky, Vološinov observes that the specific character of this form consists in the fact that the hero and the author speak as much as each other and that the accents of differently oriented voices resound within the limits of a single and identical linguistic construction. This is what distinguishes free indirect discourse from that variant of direct discourse indicated by Vološinov as “masked discourse of the other” where the word of the other is hidden, precisely, in the word that reports it. And even if, in this case as well grammatical and stylistic phenomena that are particularly original can be produced, it is always one of the many variants of the direct form of reporting the “word of the other.” However, free indirect discourse is a special type of discourse, with an uncovered face, though double-faced, like Janus (see Volosinov 1973, p. 144).

Apropos the interpretation of free indirect discourse, an important position (classical, we might say, alongside Vossler and his school) is Bally’s. The latter believes that free indirect discourse, what he calls “*style indirect libre*,” is a new recent variant of indirect discourse, which developed according to the following transformations due to the general tendency to prefer paratactic coordination among clauses to hypotactic subordination: “*il disait qu’il était malade* → *il disait: il était malade* → *il était malade (disait-il)*.” Furthermore, this variant of indirect discourse, according to Bally, is a form in motion toward direct discourse (see Bally 1930).

Vološinov criticizes Bally for focusing his attention on relations among sentences and clauses, thereby ignoring the phenomenon of encounter among words, utterances, and voices. Instead, Bally’s analysis is based on the abstraction “language” (*langue*, historico-natural language) and reduces the question to a relation among the forms of discourse foreseen by historico-natural language.

Bally works on linguistic abstractions when he states that free indirect discourse is no more than a variant of indirect discourse moving toward direct discourse as its furthest extreme, formed simply by dropping the conjunction “that” and the verb that introduces it. Nothing can form and flourish—and this is the position held by Vološinov and Bakhtin—where there are only *linguistic forms*. “Life begins only at the point where utterance crosses utterance, i.e., where verbal interaction begins”

(Volosinov 1973, p. 145), where there is a word on the word and a word in the word. In free indirect discourse, dropping the conjunction “that” does not unite two abstract forms; it is not a question of one abstract form directing itself toward another abstract form. Instead, two utterances move toward each other, mutually perceive each other, and no longer are in a relation of mutual indifference, but rather of unindifference, reciprocal participation, modifying each other. “The dropping of the conjunction *que* brings together, not two abstract forms but two utterances in all their ideational fullness. The dike ruptures, as it were, and authorial intonations freely stream into the reported speech” (Volosinov 1973, p. 146).

As anticipated, language with its rules certainly influences the perception and transmission of the word of the other. And, indeed, if what in Italian is called “indiretto libero” and in French “indirect libre,” and instead in German is indicated as “improperly direct speech” (*uneigentliche direkte Rede*) and in Russian, as used by Bakhtin, “nesobstvennaja prjamaja reč,” with the same reference to direct discourse, this is because, in conformity with the grammatical structures of each of these languages, this particular form of discourse begins developing in each language, elicited by given historical–social conditions, using the model that appears the most flexible: free indirect in French and Italian, and direct discourse in German and Russian.

As regards free indirect discourse in Italian, we will simply refer to the book already mentioned by Herczeg, *Lo stile indiretto libero in italiano* (1963), to Leo Spitzer’s essay, “L’originalità della narrazione nei Malavoglia”, in his volume *Studi italiani. Vita e pensiero*, 1976, and to the abovementioned essay by Pasolini (1972, 1976). Free indirect discourse is often confused with variants of direct and indirect discourse in Italian as well. Vološinov’s text makes a noteworthy contribution toward distinguishing among them with its precise and articulated analyses of the models and variants of reported discourse.

6.3 Distance and Participation as Conditions for the Artwork

When a question of the text, as Bakhtin shows in his essay of 1961, “The Problem of the Text in Linguistics, Philosophy, and the Human Sciences: An Experiment in Philosophical Analysis” (in Bakhtin 1979, Eng. trans. 1986: 103–131; It. trans. 1988: 191), his studies develop along boundaries, frontiers, at the point of encounter and intersection among such spheres as linguistics, philology, theory of literature and literary criticism, and other special disciplines belonging to the human sciences.

Reference to the text in its double modality and as the point of encounter between verbal and nonverbal signs sheds more light on the question of reported discourse and its variant free indirect discourse. This approach also affords insights of a methodological order not limited to the field of linguistics, and the possibility of experimentations in the artistic sphere not limited to narrative genres alone.

Pier Paolo Pasolini gave special attention to free indirect discourse. However, he did not limit his attention to literary writing. He also considered the implications for film writing and concretely experimented them. According to Pasolini, apropos what he calls “poetry film,” the essential characteristic of the photographic image in contemporary cinema is that it is neither objective (a vision external to the character), corresponding to indirect discourse, nor subjective (the character’s vision), corresponding to direct discourse, but semi-objective and semi-subjective. Like free indirect discourse, the photographic image in motion pictures presents together two points of view that do not merge into each other, but that interact dialogically and are dissymmetrical. Pasolini calls this doubling “free indirect subjective discourse” (“sogettiva libera indiretta”).

Deleuze develops the idea of free indirect discourse as an essential form of the new novel and new cinema. He evaluates the role of “free indirect subjective discourse” in Pasolini’s own film production and evidences the effect of contamination it produces between trivial and noble, low and high, profane and sacred, everyday life and myth.

But why is encounter between one’s own point of view and someone else’s so important in the artistic sphere?

In *For A Philosophy of the Act* (1920–1924), reflecting on literature and art in general, Bakhtin observes that:

The world that is correlated with me is fundamentally and essentially incapable of becoming part of an aesthetic architectonics. [...] to contemplate aesthetically means to refer an object to the valuative plane of the other. (Bakhtin 1920–1924. Eng. trans. pp. 74–75)

These statements by Bakhtin are developed and specified in a text that comes immediately after, “Author and Hero in Aesthetic Activity”, which opens the 1979 collection of his writings (and is used as the title of the whole collection in the 1988 Italian translation, *L'autore e l'eroe*, whereas the English translation is titled, *Art and Answerability*, see Bakhtin 1990):

My own axiological relationship to myself is completely unproductive aesthetically: For myself, I am aesthetically unreal. [...]. The organizing power in all aesthetic forms is the axiological category of the *other*, the relationship to the other, enriched by an axiological “excess” of seeing for the purpose of achieving a transgredient consummation. (Bakhtin “Author and Hero in Aesthetic Activity”, 1920–1924, in Bakhtin 1979, Eng., pp. 188–189)

The implication is that for aesthetic value in any artistic production it will be necessary to depict the point of view of the other. For literature this means that reported discourse is inevitable, and also involves autobiographic and lyrical genres.

A unitary reaction to the hero’s world in its totality is essential to the artwork. This unitary reaction is distinct from cognitive and practical reactions, but not indifferent to them. The author’s unitary reaction must collect all the single cognitive and emotional-volitional reactions and unite them in an architectonic totality. In order to acquire artistic value, the author’s unitary action must communicate all the resistance of reality, of life, of which the hero is an expression. This is the resistance of the objective with respect to its depiction, objectification. The author’s unitary action must convey the otherness of the hero, with his or her artistic values. Therefore, the starting point of the author’s reaction must be extralocalized with

respect to the hero, extralocalized in space, time, sense, even more so if the hero is autobiographical. Without the processes of extralocalization, in the case of autobiography confessional tones prevail and the text loses in artistic value.

Bakhtin shows how Dostoevsky's "polyphonic novel" does not describe the character as an I, a subject would describe an object, but rather as "another" centre around which that character organizes its world:

Not without reason does Dostoevsky force Makar Devushkin to read Gogol's "Overcoat" and to take it as a story about himself [...]

Devushkin had glimpsed himself in the image of the hero of "The Overcoat," which is to say, as something totally quantified, measured, and defined to the last detail:

All of you is here, there is nothing more in you, and nothing more to be said about you. He felt himself to be hopelessly predetermined and finished off, as if he were already quite dead, yet at the same time he sensed the falseness of such an approach. [...]

The serious and deeper meaning of this revolt might be expressed this way: A living human being cannot be turned into the voiceless object of some secondhand, finalizing cognitive process. *In a human being there is always something that only he himself can reveal; in a free act of self-consciousness and discourse; something that does not submit to an externalizing secondhand definition.* [...]

The genuine life of the personality is made available only through a dialogic penetration of that personality, during which it freely and reciprocally reveals itself. (Bakhtin 1963, Eng. trans.: 49–59)

Dialogue understood not in the formal sense, but rather in the substantial sense, which is also the artistically essential sense, does not only subsist where different points of views and identities come together. On the contrary, dialogue is achieved in the very situation of resistance to synthesis, which includes the delusory synthesis of one's own identity. The latter, in fact, is dialogically fragmented insofar as it is inevitably involved in otherness, just as the "grotesque body" depicted by Rabelais (Bakhtin 1965) is involved in the body of others.

This gives rise to the ambivalent language of popular comical culture, described by Bakhtin in his studies on Rabelais. Dialogism as described by Bakhtin, substantial dialogue oriented by the logic of otherness produces the type of parody that is characteristic of popular culture, it produces irony, comicality, the dynamic vision typical of popular culture where images are never finalized, isolated, inert, but rather are endowed with "regenerating ambivalence".

Dario Fo (awarded the Nobel Prize for literature in 1997) also works on Medieval popular comical culture and its parodic artworks (sacred parodic performances, parodic prayers, parodies of liturgy and the mysteries, etc.). In *Mistero Buffo, giullarata popolare in lingua padana de '400*, in which he collects and reconstructs documents relating to popular theatre, he too draws on the particular style of parodization and derision that characterizes Medieval popular culture (see Fo 2002). He also refers to Medieval popular culture when he uses the mimetic capacity of the actor as the main instrument of theatrical expression and *elects the grotesque body as a signifying body*. Moreover, as a form of critique of dominant ideology and of power, Fo resorts to popular culture in its capacity for subversion and provocation thanks to the tendency for excess with respect to homologation as imposed by

official ideology. The plasticity, ductility, mobility, comicality, ambiguity typical of the grotesque expressions of popular comicality developed by Fo, evidence the possibility of a popular culture that is not necessarily the result of the passive consumption of culture functional to reproduction of the existing social system. This is a central point in the challenge launched by the body itself as depicted by Fo in all his artworks against cultural homologation as imposed by those who detain control over communication. And here let us underline that Fo's entire artistic production is political insofar as it is artistic, in his own words: "All of art is political" (Fo, "Prefazione" to *Il teatro politico* 1975).

Dostoevsky's dialogism as analyzed by Bakhtin does not involve voices independent of each other, as we have claimed on many occasions. Nor does polyphony consist in "the novel's tendency toward drama," toward "objectivity" and "impersonality," toward the "author's exit from the stage." The polyphonic novel is not the novel approaching drama.

And yet Bakhtin is very clear on this point in his response to Lunacharsky and his critical review of the 1929 edition of his monograph on Dostoevsky (published in *Novij mir*, 1929, p. 10). Bakhtin included his response to Lunacharsky in the 1963 edition of the same monograph. Lunacharsky interpreted polyphony as objectivity and dramatization where the author is effaced, and proposed to attribute polyphony thus described to both Shakespeare and Balzac. In the 1963 edition of *Problems of Dostoevsky's Poetics*, Bakhtin rejects this proposal. According to Bakhtin, Balzac's limit is of the subjective order and consists in the fact that in his novels he does not succeed in detaching himself from the objective representation of the word of his characters.

Balzac belongs to the same line of development in the European novel as Dostoevsky, and is one of his direct and most immediate predecessors. [...] But Balzac did not transcend the objectivity of his characters, nor the monologic finalization of his world. (Bakhtin 1963, Eng. trans.: 34)

As to Shakespeare, he belongs to that line of development in European literature in which the early buds of polyphony mature, and which is brought to completion by Dostoevsky (Bakhtin 1963, p. 34). According to Bakhtin, this is a question of an objective limit, due to the fact that "drama is by its very nature alien to genuine polyphony; drama may be multileveled, but it cannot contain *multiple worlds*; it permits only one, and not several, systems of measurement" (Bakhtin 1963). Therefore, not only do objectivity and dramatization in dialogue not coincide with polyphony, but they can even obstruct its completion.

The utterances of others on a given issue can be reported to undersign them or comment on them or explain them or confute them. Therefore, in this case, we have in the same verbal context interrelation among immediately intentional words as well as among the basic units of sense, that is, among utterances: This is a question of dialogical relationships in the ordinary sense of the term, that is, relationships of consensus or dissent, of assertion or clarification, of request or response, etc. These dialogical relations between one's own word and someone else's can be the object of depiction in the "dialogue" genre, in dramatic genres. They belong to the context of a third word, that of the author who depicts the positions in dialogue. This context

does not interfere with objectified instances, with positions that are depicted, but is not influenced by them either. There is a dialogue, certainly, but in a monological context. In other words, this context remains solid and is not affected by dialogue; it does not undergo any weakening in its character as a word that limits itself to bringing to the stage and operating encounter and collision among words in dialogue.

As in direct reported discourse, here in the discourse that reports, the intention of the latter does not penetrate into the word made object, it does not enter its boundaries, but rather assumes it in its wholeness without interfering with its sense or tone. “Discourse that has become an object is, as it were, itself unaware of the fact, like the person,” says Bakhtin, “who goes about his business unaware that he is being watched; objectified discourse sounds as if it were direct single-voiced discourse” (Bakhtin 1963, Eng. trans., p. 192): Both in the direct and immediately intentional word, the word oriented toward the object, as well as in the reported, the objectified, depicted word, there is a single intention, a single voice. They are both single-voiced, univocal words.

In the word reported in the form of indirect discourse, dialogism is not only that of dialogue commonly understood as an exchange of rejoinders in the context of a word, the reporting word, which does not at all interfere with the rejoinders themselves. The word of indirect discourse must necessarily analyze the word it reports. As such, unlike the reported word in the form of direct discourse, the word of indirect discourse is a double-voiced word as much as it may be a monodirectional, monological word, a word, therefore, which takes the word of the other as its object and presents it according to a plan of its own, according to a given intention of its own. In indirect discourse the word already presents the phenomenon of internal dialogism, but the reporting word overpowers the reported word. With respect to the word of the other, “meek and defenseless,” the reporting word installs its own interpretation in it, forcing it to serve his own new purposes (Bakhtin 1963, p. 197).

However, the word of the other may also operate actively on the word that reports it, catching it off guard. Interference between one’s own word and the word of the other increases significantly above all in free indirect discourse, creating the phenomenon of *dialogism internal to the word*.

Certainly the word, whether it knows it or not, is always internally dialogical and is so to varying degrees. However, *dialogism internal to the word* is not a question of a *difference in degree*, but of a *qualitative difference*. Dialogue in the Bakhtinian sense is qualitatively different from formal dialogue and from dramatic dialogue, to the point that it can also be traced in lyrical poetry. Bakhtin analyzes Puskin’s poem, “Razluka” (“Parting,” 1830) where three voices resound in each other, interfere with each other, and dialogue with each other: The hero’s, the heroine’s, and again the hero’s as he now knows that the leave-taking narrated in the poem was forever (see Bakhtin 1920–1924, in 1979, Eng. trans., pp. 211–221).

Therefore, *dialogism as a degree* that is always present in the word is one thing, and *dialogism in the sense of rejoinders in formal dialogue* understood as a discourse genre or as a modality of dramatic genres is another, and still something else is the *word’s internal dialogism*, that is, interference between one’s own word

and someone else's word, a word that *not only is a double-voiced word, but also a double-accentuated word*.

The dialogical character of the word that Bakhtin aimed to evidence does not concern the second case, the obvious, predictable case of dialogue as it is commonly understood. Instead, it concerns dialogism as a degree, always present even when the word is oriented monologically; and, even more, it concerns dialogism understood as interference among voices and accentuations, intonations.

Dostoevsky's word installs a relation that places us in front of the other completely outside the subject–object scheme. This is connected with the polyphonic character of his novel. The hero in Dostoevsky is not the *object* of the narrating word. The narrating word is the *word turned to the word*, turned, as Bakhtin says, to someone who is present and not as a word about someone who is absent, which therefore can delude itself into being definitive. Precisely because of this, this someone who is present manifests himself in all his otherness, that is, as capable of withdrawing from the word on him, of reacting, absenting himself, with his surplus, from the word that presents him. The word of the author considers the hero's word as the word of a "second" person, and addresses it as a "you": The author considers the hero's word as a face-to-face word. The hero in Dostoevsky "is the subject of an address. One cannot talk about him; one can only address oneself to him" (Bakhtin 1920–1924, p. 251). Here, as Bakhtin states in the 1929 edition of his study on Dostoevsky, the author "speaks with all the construction of his novel not *on* the hero, but *with* the hero" (Bakhtin 1929, It. trans., p. 144, Eng. trans. by the authors).

6.4 Image, Writing, De-representation

The text Gilles Deleuze dedicates to film, *Cinéma I: L'image-mouvement* (1983) and *Cinéma II: L'image-temps* (1985) is a taxonomy, an attempt to classify images and signs, as he observes in his introductory remarks to the first volume. In relation to the notions of "moving-image" and "time-image," in addition to Henri Bergson (with special reference to his 1896 book, *Matière et mémoire*), Deleuze also refers to Charles S. Peirce and his typology of signs. He describes Peirce's work as a general classification of images and signs, no doubt the most complete and the most varied, like a classification by Linnaeus in natural history or, better, like Mendeleev's laws in chemistry.

Through the point of view imposed by motion pictures on the question of signs and images, Deleuze shifts his detailed and profound reflections from the *moving-image* and its variations (perception-image, action-image, affection-image, pulsion-image) in *Cinema 1* to the *time-image* in *Cinema 2*. Free indirect discourse and free indirect subjective discourse, our special interest in this essay, are covered by Deleuze in a section dealing with the perception-image. This is only one stage in the gradual shift in his text which leads "beyond the moving-image."

What is involved is a shift from the utterance to the utterable, from language to what Hjelmslev calls linguistically unformed “matter.” In this sense, Pierpaolo Pasolini who was anything but “naïve,” as a few critics wrongly thought, speaks of cinema as a “language of reality,” “descriptive science of reality,” constitutive of semiotics beyond existing languages, verbal and nonverbal (see Pasolini 1975: 198 ff.). Cinema is seen as the privileged place of this shift toward images and pre-linguistic (preverbal) signs. And this is so to the point of making the “time-image” possible beyond the “movement-image.”

The moving-image constitutes time in an empirical spatialized form. As Aristotle claimed, to speak of time is to speak of movement. Objective time is a question of spatialized time. Subjective time is a question of distension, “a stretching of the soul” (St. Augustine), centered on the present of consciousness, according to which the past is an old present and the future a present to come (on the spatialization of time, particularly interesting are Victoria Welby’s unpublished papers on the topic, a selection is now available in Petrilli 1998, 2009; and in Welby 2010).

Cinema that, rather than presenting itself as action cinema, cinema centered on narrative content, presents instead situations without development, without extensions, which count in themselves, thereby becoming purely optical and sonorous situations, this type of cinema opens onto a direct time-image. Cinema can do what only music before it succeeded in doing: Make a direct presentation of time-image, in which the past persists in the present, and passes by preserving itself, by doubling the image. Real and imaginary, present and memory coexist ambiguously in a relation of “undiscernibility” (see Petrilli and Ponzio 2003).

We could claim that the question of transition from the system of language to prelinguistic material, from the utterance to the utterable, from the moving-image to the time-image is the question of *writing*, of recovering the writing in which the different historico-natural languages are grounded, writing before the verbal, before the letter. This confers a special sense to the expression “film writing.” It also establishes a special relation between film writing, musical writing, and literary writing. Furthermore, the relation between moving-image and time-image, which is connected with the role of narration in the image (see Deleuze 1989, p. 301), makes it possible to associate the itineraries followed above all by film to narrative genres, in particular to the novel. Here, of particular interest is the role carried out by encounter and interaction between one’s own word and the uttered word, that is, between the uttered word and the word listened to, the present word and the past word, as occurs to a maximum degree in free indirect discourse.

The modeling procedure to which all human languages belong, verbal and non-verbal, is writing—writing understood as syntax, articulation, *ars combinatoria*. Musical language, for example, which intervals, beats, scans, articulates space-time, is made possible by primary modeling, *ante litteram* writing. The *a priori is not speech* (Noam Chomsky’s glottocentric fallacy with his Innate Universal Grammar). The *a priori* is the human species-specific modeling device we called “writing.” Writing thus described (by contrast with the ethnocentric confusion of writing with transcription) precedes the birth of what is commonly understood by writing, that is, transcription, writing as mnemonics. Like verbal writing, musical writing as

well presupposes the “capacity for writing” and, therefore, participates in the condition of scanning, articulating, relating, without which the human world would not be possible (see Petrilli and Ponzio 1999).

Musical language (Lomuto and Ponzio 1998), literary language, film language (see Deleuze 1989, pp. 37 ff., on assimilation, beginning from Christian Metz, of the film image to the utterance, thereby leading filmic language back to the sphere of the linguistic), all resist verbal description and oblige recourse to de-representation, de-description. This reflects on verbal language itself and the way it is described; and not only on the disciplines that describe it directly such as philology and linguistics, but also the general science of signs in which they are inscribed, that is, semiotics.

Returning to Artaud against Artaud, Carmelo Bene’s “actorial reading” also proposes itself as de-description, that is, de-writing (see the paper delivered by Marianne Fallon, “Entre texte et performance: Le jeu de la *di-scrittura* chez Carmelo Bene”), release from transcription, from the mnemotechnic function, from recitation, and becomes writing as we are describing it, writing avant la lettre (see Bene 1995; Laforgue 1992). It is no incident that Deleuze should address his attention to Pasolini and his reflections on free indirect speech, as much as to Carmelo Bene dedicating an essay to him, “Un manifesto di meno”. This was published with Bene’s *Riccardo III* and with a response from Bene in a booklet titled *Sovrapposizioni* (1978).

6.5 To Recapitulate

There is a theoretical place in which three authors meet, Deleuze, Bakhtin, and Pasolini—all three authors are “other” from official culture. The “theoretical place of encounter” is reflection on “free indirect discourse,” which has benefited in particular from the attention of philologists, linguists, and literary critics. According to Bakhtin, free indirect discourse plays a central role in the novel’s tendency toward polyphony, which begins with Dostoevsky.

There is no judgment-word in the polyphonic novel inaugurated by Dostoevsky, a word on the object, but rather the *allocution-word*, the word that enters into dialogic contact with the other word, *word on the word and turned to the word*. Therefore, dialogism presents itself as interference among discordant voices, as polyphony involving the narrator himself. According to Bakhtin, this is where the difference lies between the novel genre and dramatic genres. Polyphony cannot be achieved in theatre, if not through what Bakhtin calls its “novelization.” For example, it is possible to “novelize” Shakespeare’s *King Lear*, as does Marco Baliano, by making the Fool recount the whole sequence and allowing us to perceive interferences from the author’s voice in the Fool’s voice. Contemporary theatre presents multiple and diversified examples of such “novelization.” Carmelo Bene’s artwork merits consideration on its own account—Deleuze dedicates an essay to Bene—and to his interpretation of Shakespeare.

Unlike direct and indirect discourse, in free indirect discourse the author's word and the hero's word contaminate each other. One voice penetrates into the other and into his or her point of view: The word becomes a double-voiced work, internally dialogic, or polylogic.

And this is no insignificant matter. Free indirect discourse reveals, but is also a practice in questioning the subject and everything it is connected with in occidental ideo-logic (nor is it incidental that today the polyphonic novel finds development above all in the South of the world, in Africa, Latin America): identity, difference, belonging, monologism, being, objectivity, narration, memory, history, truth, meaning, reason, power, etc.

Pasolini (referred to by Deleuze in his volumes dedicated to cinema) translates free indirect discourse into what he calls "cinema of poetry." He experiments free indirect discourse through that type of film take that is neither subjective, nor objective, but rather "free indirect subjective discourse."

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Augusto Ponzio is an Italian semiotician and philosopher. Since 1980, he has been professor of philosophy of language at Bari University, Italy. He has made a significant contribution as editor and translator to the dissemination of the ideas of Pietro Ispano, Mikhail Bakhtin, Emmanuel Lévinas, Karl Marx, Ferruccio Rossi-Landi, Adam Schaff, and Thomas Albert Sebeok, in Italy and abroad. Augusto Ponzio has authored the first monographs ever at a world level on each of Emmanuel Lévinas, Mikhail Bakhtin and Adam Schaff: respectively, *La relazione interpersonale* (1967), dedicated to Levinas, *Michail Bachtin. Alle origini della semiotica sovietica* (1980), and *Persona umana, linguaggio e conoscenza in Adam Schaff* (1977). Moreover, Ponzio has contributed significantly to the dissemination of Thomas Sebeok's work in Italy and of his global

semiotics in particular. In collaboration with Susan Petrilli, he has promoted the Italian translation of most of his books and has authored two monographs dedicated to his thought: *Sebeok and the Signs of Life*, published in 2001, and *I segni e la vita. La semiotica globale di Thomas A. Sebeok* (2002). Among Ponzio's numerous publications are the following with sole reference to his monographs alone: *L'écoute de l'autre* (2009), *Emmanuel Levinas, Globalisation, and Preventive Peace* (2009), *Rencontres de paroles* (2010), *Enunciazione e testo letterario nell'insegnamento dell'italiano come LS* (2010), *Encontres de palavras. O outro no discurso* (2010), *Procurando uma palavra outra* (2010), *Interpretazione e scrittura. Scienza dei testi ed eccedenza letteraria* (2011), *La filosofia del linguaggio* (2011), *In altre parole* (2011), *Linguistica chomskiana e ideologia social* (2012), *Dialogando sobre diálogo na perspectiva bakhtiniana* (2012), *Il linguaggio e le lingue* (2013), *Fuori luogo. L'esorbitante nella riproduzione dell'identico* (2013). Most recently Ponzio has published the magistral bilingual volume (Italian / Russian), in his own translation, with introduction and commentary, Michail Bachtin e il suo circolo, *Opere 1919-1930* (2014).

Susan Petrilli is Professor of Philosophy and Theory of Languages at the University of Bari "Aldo Moro," Italy. Her research includes but is not limited to the following areas: philosophy of language, biosemiotics, bioethics, semiotics and interpretation, translation theory, and the work of Lady Victoria Welby. The following are some of her books in semiotics, co-authored with Augusto Ponzio, that are essential to an understanding of this interdiscipline: *Thomas Sebeok and the Signs of Life* (2001), *I segni e la vita. Sulla semiotica globale di Thomas A. Sebeok* (2002), *The Semiotic Animal* (also with J. Deely 2005), *Reasoning with Emmanuel Levinas* (also with J. Ponzio 2005), *Semiotics Unbounded: Interpretive Routes through the Open Network of Signs* (2005), *Semiotics Today: From Global Semiotics to Semioethics* (2007), *Lineamenti di semiotica e filosofia del linguaggio* (2008). In addition, her monographs include: *Significs and Understanding. Reading the Works of Victoria Welby and the Signific Movement* (2009), *Sign Crossroads in Global Perspective. Semiotics and Responsibilities* (2010), *Parlando di segni con maestri di segni* (2011), *Un mondo di segni. L'aver senso e il significare qualcosa* (2012), *Expression and Interpretation in Language* (2012), *The Self as a Sign, the World and the Other* (2013), *Riflessioni sulla teoria del linguaggio e dei segni* (2014), *Sign Studies and Semioethics. Communication, Translation and Values* (2014), *La vita dei segni. Percorsi della semiotica* (2015), *Victoria Welby and the Science of Signs. Significs, Semiotics, Philosophy of Language* (2015).

Chapter 7

C. S. Peirce and Intersemiotic Translation

João Queiroz and Daniella Aguiar

7.1 Introduction

Intersemiotic translation (IT) is a phenomenon of interest in many fields of research such as comparative literature, translation studies, interarts, and intermediality studies. After Jakobson's definition, the term became broader and now it designates relations between systems of different natures, and it is not restricted to the interpretation of verbal signs (Cluver 1997, p. 43; Gorrée 2007; Plaza 1987). Consequently, this process is observed in several semiotic phenomena, including literature, cinema, comics, poetry, dance, music, theater, sculpture, painting, video, and so on. Among the most thought-provoking questions to which no systematic effort has been directed, figures the following: how to model, in the domain of Peirce's theory of sign, an IT? Our purpose here is to present a model of IT based on Peirce's philosophy of signs. We begin with a brief introduction of the topic through the notion of creative translation as transcreation. Then, we introduce the Peircean model of semiosis and his fundamental classification of signs. We conclude by describing a case of translation from literature (Gertrude Stein) to dance (Paul Lightfoot and Sol Leon).

J. Queiroz (✉)

Institute of Arts and Design, Federal University of Juiz de Fora (UFJF), Juiz de Fora, Brazil
e-mail: queirozj@pq.cnpq.br

D. Aguiar

Graduate Program on Literary Studies, Federal University of Juiz de Fora (UFJF), Juiz de Fora, Brazil
e-mail: daniella.aguiar@gmail.com

7.2 On Campos's Notion of Creative Translation

It is well known in Jakobson's thesis that, in poetry, "verbal equations" constitute a primary organizing principle—the constituents (syntactic and morphological categories, the roots, the phonemes, and distinctive marks) are confronted and juxtaposed, placed in "contiguity relationships" according to the "similarity and contrast principle" (Jakobson 1980, p. 84). The "grammar of the poetry" requires from the translator a detailed *recreation* program of parallelisms between several levels of description of the source sign (e.g., phonological, syntactic, morphological, semantic, and pragmatic).

Among grammatical categories utilized for parallelisms and contrasts we actually find all the parts of speech, both mutable and immutable: numbers, genders, cases, grades, tenses, aspects, moods, voices, classes of abstract and concrete words, animates and inanimates, appellatives and proper names, affirmatives and negatives, finite and infinite verbal forms, definite and in-definite pronouns or articles, and diverse syntactic elements and constructions. (Jakobson 1980, p. 84)

As the Brazilian poet and translator Haroldo de Campos emphasized, the translation of poetry is not centered on the reconstitution of the referential message, but on the *transcreation* (see Campos 2007, p. 315) of several levels of semiotic processes. It is almost a consensus that, on this subtype of interlinguistic translation, there are other relevant levels of description to consider. According to Campos, supported by Jakobson's notion of poetic function of language and opposed to the idea of translation as "message transmission," in a creative translation of poetry we translate the sign itself, its own materiality:

Of course in a translation of this type not only the signified but also the sign itself is translated, that is, the sign tangible self, its very materiality (sonorous properties, graphical-visual properties all of that which forms, for Charles Morris, the iconicity of the aesthetic sign, when an iconic sign is understood as that which is 'in some degree similar to its denotation'.) The signified, the semantic parameter, becomes just a kind of boundary marker for the "re-creative" enterprise. (Campos 2007, p. 315)

For Campos (2007, p. 315, 1997, 1992), creative translation is an iconic (isomorphic or paramorphic) *transcreation* of "verbal equations"—"an isomorph translation would be, by definition, an iconic translation" (Campos 1997, p. 52). The translation *transcreates* a multilevel system of relations (see Fig. 7.1).

Eco (2007, p. 95) summarizes in a very precise way the relationship between different levels. He assumes it is possible, for instance, that the referential content of a poem could be neglected to benefit the rhythm, according to a *negotiation* between loss and gain. This means that, in some levels, the target text is not "equivalent" to the source text, because the translator must choose among the aspects considered interpretively more relevant.

The problem of relations between various descriptive levels affects particularly the phenomenon of IT. It seems theoretically natural to describe an interlinguistic translation by establishing direct correlations between equivalent semiotic levels of description—morphological-morphological, phonetic-phonetic, rhythmic-rhythmic (see Jakobson and Pomorska 1985; see Fig. 7.1). However, an IT does not exhibit

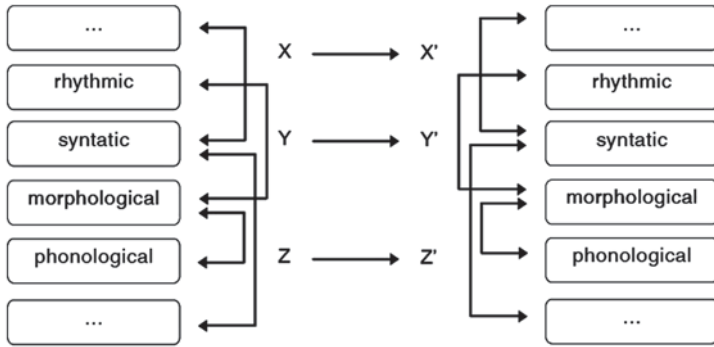


Fig. 7.1 Translation can be modeled as the *transcreation* of a multilevel system of relations. The figure depicts two types of relations: (i) the hypothetical “constraints” between different levels in sign source (X, Y, Z) and sign target (X', Y', Z') and (ii) an *iconic mapping* between the descriptive levels from the source sign into the target sign

the same principle of corresponding levels. Therefore, the main theoretical difficulty relates to the comparison between radically different semiotic systems and their specific levels of description. That supposition depends on the idea of a semiotic system as a *multilevel system*, as we have argued in other papers (see Queiroz and El-Hani 2006). Accordingly, an IT can be described as a relation between *multilevel systems*, where levels are coordinated in terms of mutual constraints. In this sense, although we can describe the “scenic dance space,” for instance, without reference to “movement dynamic morphology,” in fact they are mutually constraining each other.

IT operates on different levels, selecting relevant aspects from the source and translating them into the target according to new materials and processes. For example, from literature to dance, linguistic and paralinguistic components (rhythm, prosody, syntax, or psychological ambience) are translated into dynamic of movement, organization of space, light design, costumes, scenography, etc. Notably, a “mapping of correlations” cannot be easily established between levels of different nature (different semiotic systems; Fig. 7.2). If a translation from a literary work into a dance choreography results in very different materials and structures, how to compare “semiotics source and target”? In any case, possibilities of conceptual mapping (probably nonunivocal) between different systems and levels should be provided. A basic graphic model (Fig. 7.2) represents this problem.

We introduce the notion of level of description in a more general perspective of semiosis (sign action). The application of Peircean triadic model of semiosis to the translated-interpreter-translator relationship was initially proposed by Steconni (1999), and more recently by Hodgson (2007). Plaza (1987) is probably the first attempt to develop an IT approach to the phenomenon based on Peirce’s model and typology of signs combined with Campos’ notion of creative translation as transcreation.¹ Gorrée (1994, 2007), Damiani (2008), and Jeha (1997) are among the

¹ For Plaza (1987), there are three types of intersemiotic translation: iconic, indexical, and symbolic. He also suggests examples involving poetry and visual arts, including new digital media.

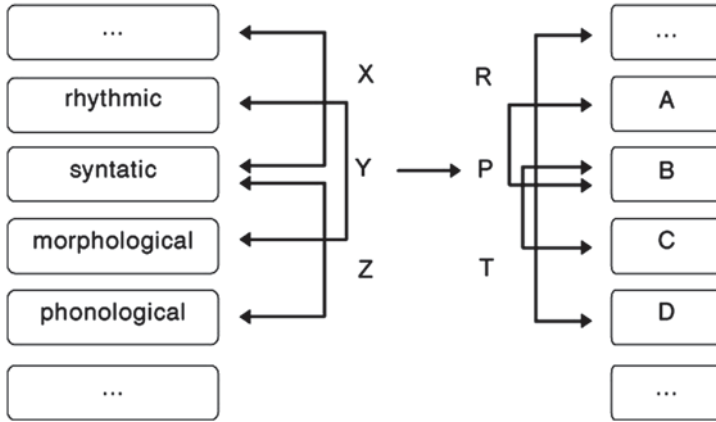


Fig. 7.2 The figure depicts two types of relations: (i) hypothetical relations between different levels in sign-source (X, Y, Z) and sign target (R, P, T) and (ii) an *iconic mapping* between the descriptive levels from the source system into the target system

authors who consider Peirce’s model of semiosis adequate to translation studies in general.

Our approach is based on the premise that IT is fundamentally an irreducible triadic relation (semiosis). Beyond that, as many authors have claimed (see Petrilli and Ponzio 2010; Gorrée 1994, p. 10, 2005; Plaza 1987), we assert that IT is predominantly a multilayered iconic relation (see Queiroz and Aguiar 2013; Aguiar and Queiroz 2009, 2010, 2011a, b). Here, we explore some consequences of those perspectives.

7.3 Peirce, Semiosis, and Semiotics

Charles Sanders Peirce,² founder of the modern theory of signs, defined semiotics as a kind of logic: a science of the essential and fundamental nature of all possible varieties of meaning processes (semiosis; see Queiroz and Merrell 2009). Peirce’s semiotics is grounded on a list of logicalphenomenological categories—firstness, secondness, and thirdness—which corresponds to an exhaustive system of hierarchically organized classes of relations (see Houser et al. 1997). This system makes up the formal foundation of his model of semiosis and of his classifications of signs (Murphey 1993, pp. 303–306). In brief, the categories can be defined as: (1) firstness: what is such as it is, without reference to anything else; (2) secondness: what

² We shall follow the practice of citing from the Collected Papers of Charles Sanders Peirce (1931–1935, 1958) by volume number and paragraph number, preceded by “CP”; the Essential Peirce by volume number and page number, preceded by “EP.” References to the microfilm edition of Peirce’s papers (Harvard University) will be indicated by “MS,” followed by the manuscript number.

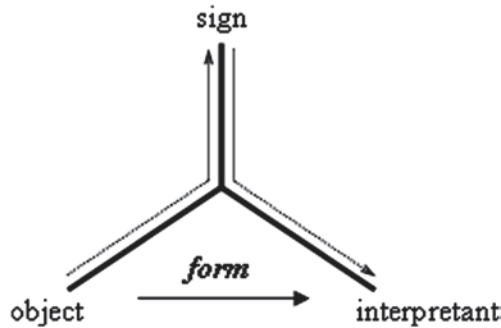


Fig. 7.3 Semiosis as a relation between three irreducibly connected terms (sign-object-interpretant, S-O-I). This triadic relationship communicates/conveys a form from the object to the interpretant through the sign (symbolized by the *horizontal arrow*). The other two *arrows* indicate that the form is conveyed from the object to the interpretant through a determination of the sign by the object, and a determination of the interpretant by the sign

is such as it is, in relation with something else, but without relation with any third entity; and (3) thirdness: what is such as it is, insofar as it is capable of bringing a second entity into relation with a first one in the same way that it brings itself into relation with the first and the second entities. Thirdness (triadic relation) is the category of mediation, habit, generality, and semiosis (CP 1.340; for further on categories, see Hookway 1985; Savan 1987; Murphey 1993).

According to Peirce's model, any description of semiosis involves a relational complex constituted by three terms irreducibly connected by relations of determination—Sign, Object, and Interpretant (S-O-I). The irreducibility indicates a logical property of this complex: the sign process must be regarded as associated with the interpretant, as an ongoing process of interpretation (Hausman 1993, p. 9), and it is not decomposable into any simpler relation. If we consider only a dyadic relation, S-I, S-O, or I-O, or an element of a triad in itself, we will not be able to infer how they would behave in a triadic relation, S-O-I (EP 2:391).

[...] by 'semiosis' I mean [...] an action, or influence, which is, or involves, a cooperation of three subjects, such as a sign, its object, and its interpretant, this tri-relative influence not being in any way resolvable into actions between pairs. (CP 5.484)

The relations of determination provide the way the elements in a triad are arranged in semiosis. According to Peirce, the Interpretant is determined by the Object through the mediation of the Sign (I is determined by O through S; MS 318: 81). This is a result from two determinative relations: the determination of the Sign by the Object relatively to the Interpretant (O determines S relatively to I), and the determination of the Interpretant by the Sign relatively to the Object (S determines I relatively to O; De Tienne 1992).

Semiosis can also be pragmatically defined as a medium for the communication to the interpretant of a form embodied in the object, so as to constrain, in general, the interpreter's behavior (Fig. 7.3):

[...] a Sign may be defined as a Medium for the communication of a Form. [...]. As a medium, the Sign is essentially in a triadic relation, to its Object which determines it, and to its Interpretant which it determines. [...]. That which is communicated from the Object through the Sign to the Interpretant is a Form; that is to say, it is nothing like an existent, but is a power, is the fact that something would happen under certain conditions. (Peirce MS 793:1–3. See EP 2.544, n.22, for a slightly different version)

The object of sign communication is a habit embodied as a constraining factor of interpretative behavior—a logically “would be” fact of response. The form is something that is embodied in the object as a “regularity” or a “disposition.” The communication of a form from the object to the interpretant constrains the behavior of the interpreter in the sense that it brings about a constrained set of object effects on the interpreter through the mediation of a sign.

As it is well known, sign-mediated processes show a notable variety. The morphological variety of semiotic processes is usually reduced to three (nonexcludent) classes of signs based on sign-object relation (icon, index, symbol; see Atkin 2010). Peirce characterized icons, indexes, and symbols as matching, respectively, relations of similarity, contiguity, and law between S and O (sign-object relation) in the triad S-O-I. In iconic sign process, the form which is communicated from the object to the interpretant through the sign is a general similarity between the object and the sign. Generally speaking, an iconic sign communicates a habit embodied in an object to the interpretant, so as to constrain the interpreter’s behavior, as a result of a certain quality that the sign and the object share. In contrast, if S is a sign of O by reason of “a direct physical connection” between them, then S is said to be an index of O. Generally speaking, an indexical sign communicates a habit embodied in an object to the interpretant as a result of a direct physical connection between sign and object. Finally, in a symbolic relation, the interpretant stands for “the object through the sign” by a determinative relation of law, rule, or convention (CP 2.276). In this symbolic sign process, the form, which is communicated from the object to the interpretant through the sign, is a lawful relationship between a given kind of sign and a given type of object. Generally speaking, a symbolic sign communicates a habit embodied in an object to the interpretant as a result of a regularity in the relationship between sign and object (law or rule).

Iconic processes have special importance in our approach. We could say (*a la* Wittgenstein) that the icon *shows* its meaning through its material form (see Fabbrichesi 2011). We know, at least since Charles Morris (1971), that the aesthetic sign is predominantly iconic (see also Zeman 1977, pp. 241–258).

7.4 Intersemiotic Translation as an Iconic-Dependent Process

The idea of translation as a predominantly iconic process has been proposed by Petrilli and Ponzio (2010), and other authors (see Gorrée 1994, p. 10, 2005). We have approached the same idea focusing the phenomenon of IT, especially from literature to dance (see Queiroz and Aguiar 2013; Aguiar and Queiroz 2011b, 2013).

The icon is a type of sign inextricably linked to its object, an analogue of its own composition, formal, structural, and/or material nature. It *stands for* its object through its form, structure, or material constitution (W 3: 62–65). But we have developed the idea of iconicity, central to Petrilli and Ponzio’s thesis, and strongly associated by Haroldo de Campos to the concept of *transcreation*, in new directions (see Queiroz and Aguiar 2013; Queiroz 2010). When an “operational criterion” is adopted (Hookway 2000, p. 102; Stjernfelt 2011), the icon is defined as anything whose manipulation can reveal more information about your object, and algebra, syntax, graphs, and the formalization of all types should be recognized as icons. In short, an icon is characterized as a sign that reveals information through a procedure followed by observation.

The key of iconicity is not perceived resemblance between the sign and what it signifies but rather the possibility of making new discoveries about the object of a sign through observing features of the sign itself. Thus a mathematical model of a physical system is an iconic representation because its use provides new information about the physical system. This is the distinctive feature and value of iconic representation: a sign resembles its object if, and only if, study of the sign can yield new information about the object. (Hookway 2000, p. 102)

This operational property is considered a detrievilization of the notion that the icon is fundamentally based on a relation of similarity (Stjernfelt 2000, pp. 357–392). Such property is clearly manifested in creative translations, as Haroldo de Campos (2007, pp. 323, 325) stressed—“translation is the most attentive way of reading.”

If translation is a privilege form of critical reading, it will be by means of translation that one can lead other poets, readers, and students of literature to an understanding of the most profound workings of the artistic text, its most intimate mechanisms and gears. (Campos 2007, p. 325)

7.5 Intersemiotic Translation as Semiosis

There are important consequences of Peirce’s modeling of sign process in the domain of IT research. Peirce’s model describes semiosis as essentially triadic, dynamic, interpreter dependent, and materially extended (embodied; see Queiroz and Merrell 2009). An IT is emphatically a triadic (S-O-I) relation, not a dyadic-bilateral one. There are two possible explanatory models here. The sign is the semiotic source (translated work). The object of the translated sign is the object of the semiotic source and the interpretant (produced effect) is the semiotic target (translator sign) (Fig. 7.4).

According to the second model, the sign is the semiotic target (translator sign). The object of the sign is the semiotic source (translated work) and the interpretant is the effect produced on the interpreter (interpretant) (Fig. 7.5).

According to the process described above, the “form” communicated from the object to the effect (interpretant) and produced by means of the sign is different in each version. How can these differences be helpful? We should speculate about how those alternatives provide insights about the phenomenon examined (see the Sect. 7.7).

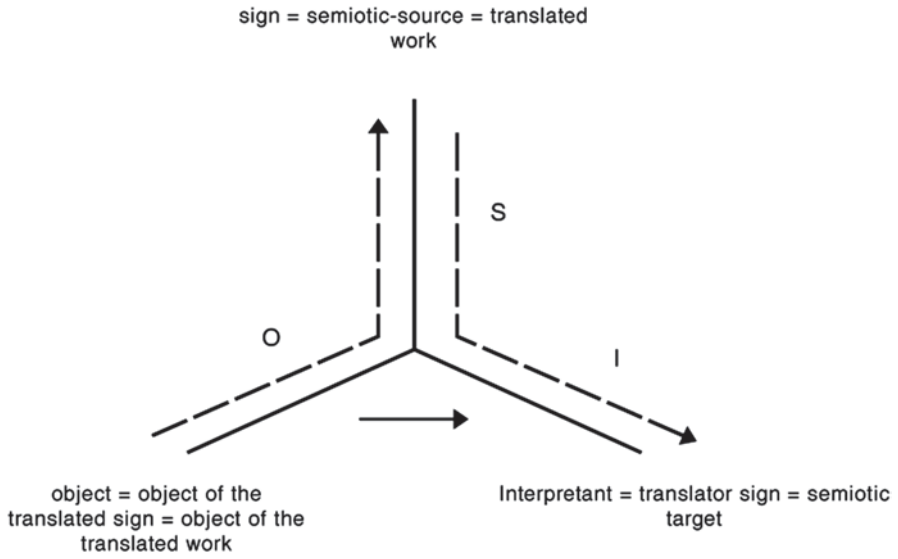


Fig. 7.4 Triadic relation in which the sign is the translated work, the object of the sign is the object of the work, and the interpretant is the translator sign

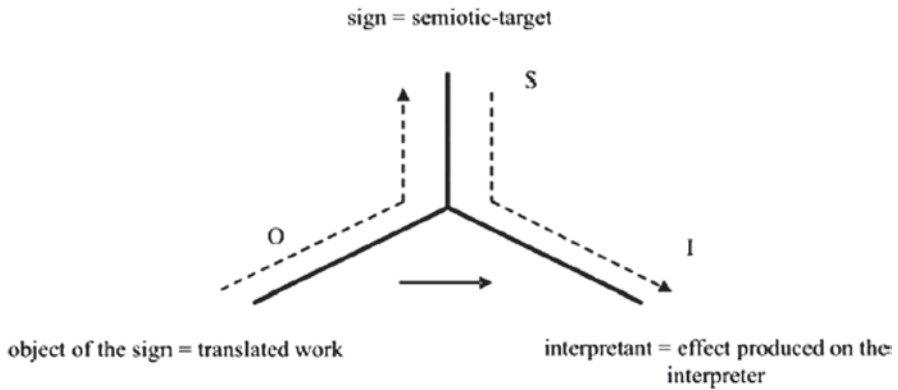


Fig. 7.5 Triadic relation in which the sign is the target, the object of the sign is the translated work, and the interpretant is the interpreter

7.6 Intersemiotic Translation of Gertrude Stein

In an effort to better explain the models, we examine an example of IT from literature to dance. In this example, the choreographers Paul Lightfoot and Sol Leon based their work, *Shutters Shut*,³ for the Nederlands Dans Theater, on the portrait

³ For more information about the choreography: <http://www.ndt.nl/en/ballets/13>.

“If I Told Him: A Completed Portrait of Picasso” (1923) by Gertrude Stein (2008).

If I told him would he like it. Would he like it if I told him.
 Would he like it would Napoleon would Napoleon would would he like it.
 If Napoleon if I told him if I told him if Napoleon. Would he like it if I told him if I told him
 if Napoleon. Would he like it if Napoleon if Napoleon if I told him. If I told him if Napoleon
 if Napoleon if I told him. If I told him would he like it would he like it if I told him.
 Now.
 Not now.
 And now.
 Now.
 Exactly as as kings.
 Feeling full for it.
 Exactitude as kings.
 So to beseech you as full as for it.
 Exactly or as kings.
 Shutters shut and open so do queens. Shutters shut and shutters and so shutters shut and
 shutters and so and so shutters and so shutters shut and so shutters and shutters and so. And
 so shutters shut and so and also. And also and so and so and also.
 Exact resemblance to exact resemblance as exact as resemblance, exactly as resembling,
 exactly resembling, exactly in resemblance exactly a resemblance, exactly and resem-
 blance. For this is so. Because.
 Now actively repeat at all, now actively repeat at all, now actively repeat at all.
 Have hold and hear, actively repeat at all.
 I judge judge.
 As a resemblance to him.
 Who comes first. Napoleon the first.
 Who comes too coming coming too, who goes there, as they go the share, who shares all,
 all is as all as as yet or as yet.
 Now to date now to date. Now and now and date and the date.
 Who come first Napoleon the first. Who came first Napoleon the first. Who came first,
 Napoleon first.
 [...]

This portrait has multiple interpretations, always connecting Picasso’s personality to formal and semantic aspects of Gertrude’s text. For Régis (2007, p. 55), the portrait “[...] projects a diagram that, little by little, unveils, through the repetition, the quality of a Picasso’s feeling in the presentness of the text, unveiling the rich and active personality of the painter.” The comparison between Picasso and Napoleon is evident, evoking the resemblance of the painter with the former French emperor (see Clüver 1978; Régis 2007; Retallack 2008; Giroud 2007). In *The Autobiography of Alice B. Toklas*, Stein offers a direct comparison:

Picasso was more than ever as Gertrude Stein said the little bullfighter followed by his squadron of four, or as she later in her portrait of him, she called him, Napoleon followed by his four enormous grenadiers. Derain and Braque were great big men, so was Guillaume [Apollinaire] a heavy set man and Salmon was not small. Picasso was every inch a chief. (Stein 1990, p. 62)

However, the most outstanding characteristic of this portrait is the formal construction. It can be compared to Picasso’s cubism, especially *Ma Jolie*, because of its fragmented motifs and metonymic syntax that can form, in Stein’s portrait, grammatically and syntactically correct sentences, but always refusing to yield what the

reader expects (Clüver 1978, p. 27). The repetition and lexical variation, combined with other strategies, create surprising effects, for example, the wordplays or puns, and the unexpected relations between sound and meaning. Beyond that, in this portrait, as in other Stein's texts, the orality can be stressed, because of the importance of the prosody, and the way the rhythm modulates the signification process and the time sense through the reading.

Obviously, there are several ways to translate "If I Told Him..." into dance. In *Shutters Shut*, there are no references to the fact that the text is a portrait of Picasso. There are no attempts to *transcreate* the portrait genre, or to establish any relation to the subject of the portrait. The main relation observed in the translation, based on the most relevant property of this small dance piece, is created between the spoken text and movement vocabulary and dynamic. There is a dance movement for each word, a strategy that could be called a transcription.⁴ The audience is able to observe this strategy because the dance duet uses, as its "music," an audio recording of Stein reading her own text. What we have is a kinetic transcription of the text.

The main property of the spoken language translated into dance movements is the prosody. It is related to rhythm, tension, and intonation of the discourse. It can reveal information about the speaker, the kind of vocalization (assertion, question, or imperative proposition), the presence of irony, sarcasm, focus, and elements not codifiable by grammar or vocabulary choices. In acoustic terms, oral language prosody involves syllabic accent, volume, and tone. These properties represent a particular description level, whose *transcreation* into dance should not be neglected, considering the important structural role played by the oral language in Stein. The choreographers Lightfoot and Leon confronted the task of iconically transcreating Gertrude Stein's prosody.

The words "if," "I," and "him," directly correlated with the rhythmic patterns of the portrait because of their repetition and short length, are *transcribed* into quick and angular dance movements. The excerpt "And also and so and so and also," for example, is *transcribed* into a dance movement sequence in which the dancers turn their bodies backward and forward performing quick and wavy dance movements, creating a similar effect of that produced by the repetition when the excerpt is uttered. At different moments of the choreography, it is difficult to distinguish the movements corresponding to each word, which are almost coincident with their subsequent movement. The same happens in the spoken language. The choreography, then, creates a flux *analogous* to the discourse.

According to the first model, the sign-object-interpretant (S-O-I) triad matches the triadic relationship between the portrait (S)—portrait object (O)—dance choreography (I). In our example, the sign is the portrait "If I Told Him: A Completed Portrait of Picasso"; the object is the object of the portrait that, in a very simplified

⁴ In the linguistic sense, *transcription* is the systematic representation of the oral language in the written on. In general, transcription and translation are considered distinct phenomena. *Transcription* refers strictly to the passage from spoken language to the written one, involving the transposition of each word. On the other hand, translation, in the strict sense, involves two distinct idioms and the impossibility, by principle, of exact correspondence of all the elements between source and target.

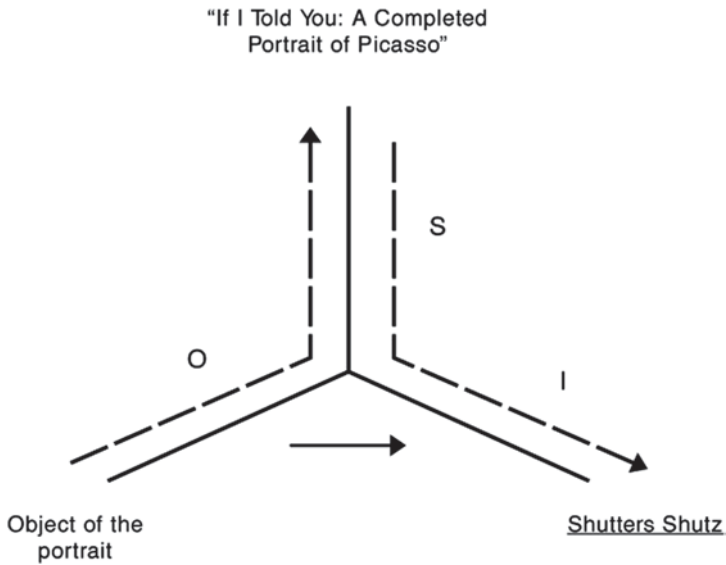


Fig. 7.6 Graphic representation of the first model of the portrait’s translation into *Shutters Shut*

definition, is Picasso’s character and its representation; and the interpretant is the choreography *Shutters Shut* (Fig. 7.6).

According to the second model, the S-O-I triad corresponds to the dance choreography (S)—portrait (O)—the effect on the audience (I). Hence, the sign is the choreography *Shutters Shut*; the object is the portrait “If I Told Him: A Completed Portrait of Picasso,” and the interpretant is the effect of the choreography on its audience (Fig. 7.7).

Therefore, we propose two different modeling possibilities. According to the first, the quality is communicated to the semiotic target (*Shutters Shut*) as a habit embodied in the object of the semiotic source (Picasso’s character). This is very different from our second modeling option, in which the form communicated from the semiotic source (“I If I Told Him...”) to the interpreter (the effect on the audience’s mind) is mediated by the semiotic target (*Shutters Shut*). In this case, semiotic target and semiotic source share some quality. In other words, what is communicated through the semiotic target to the interpreter is a quality shared between the semiotic target and the semiotic source, which is the translated work, not the object of the translated work.

If, as we argue, we are dealing with icons, it should be clear that, in both cases, the interpretant is the effect of an analogy produced by the qualities shared between sign and object. According to the second model of our analysis, the process seems to be more dependent on the intrinsic qualities of source; in the first, it is dependent on the qualities of the object of the source. In the second case, the process seems more dependent on the intrinsic qualities that constitute the source signs; in the first, it is dependent on the qualities that constitute the object of the sign translated.

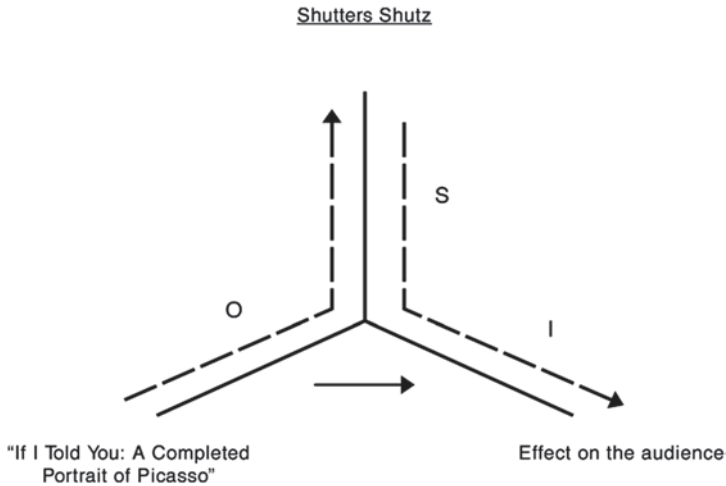


Fig. 7.7 Graphic representation of the second model of the portrait's translation into *Shutters Shutz*

7.7 Some Consequences

According to Victoria Welby, semiosis and translation are inseparable phenomena:

In *What is Meaning?*, Welby described translation as “inter-translation,” a method of interpretation and understanding. And given that translative processes are structural to sign processes as they develop across systemic and typological boundaries, and that meaning is generated in the relation among signs, from a signifi- cational perspective, theory of translation and theory of sign and meaning are interconnected. (Petrilli 2009, p. 517)

In another passage: “Translation is therefore no less than a condition for understanding and interpretation of signifying behavior generally [...]” (Petrilli 2009, p. 518). Extending Welby’s claim to IT, an approach of the phenomenon cannot be dissociated from a general theory of signs, which should provide a model of semi-otic processes. Therefore, there are several consequences derived from Peirce’s theory of sign, which are applied to IT.

The comparison between source and target is traditionally treated as a dyadic relation, either in translation studies or in intermediality studies. By applying Peirce’s model of semiosis to describe IT, the phenomenon is observed as essentially triadic, iconic, interpreter, and context dependent.

It is well known that the definition of icon concerns different semiotic systems, locating it far from the tendencies to privilege visual icons. A more controversial fact is that the operational definition of icon extends it beyond the most familiar conception of “similarity” (Stjernfelt 2011). In this sense, when the operational criterion is adopted, the icon is anything that, when manipulated according to certain laws, is able to reveal more information about its object. The fact is that through the operational criterion we can appreciate the discovery status resulting from the manipulation of the “physicality” of the sign. Through that notion, it is possible to infer

that new properties of the object are revealed in both models of IT (see Sect. 7.6). The IT of specific aspects of Stein's portrait, such as prosody, transcreates some properties of the source in a very different material. According to the second model, this process provides, at least hypothetically, the reader or spectator with new information about Stein's portrait through the choreography *Shutters Shut*. According to the first model, however, new information about the object of the portrait is revealed to the target, the choreography, which is the interpretant.

As we saw, the icon predominantly depends on its material. The IT example that we examined, from "If I Told Him..." into *Shutters Shut*, is focused on the materiality of the source sign. The transcreation in diverse materials and systems could "free" the translation task from the primary semantic dimension to which the most current interpretations are attached, forcing the sign source to be revealed in diverse levels and properties.

If, as Haroldo de Campos (2007) argues, a creative translation is the most attentive way of reading a sign system or a text, then an IT can be considered an even more radical practice, since it is obliged to transcreate the same effects produced by the source using drastically different systems and materials. IT represents a domain of new language processes and invention because it tends to produce different habits of sign manipulation and interpretation. This idea deserves an even more accurate development. In our argument, IT could represent a laboratory of experimentation involving new ways to deal with well-known materials and methods, since it requires from the translator or translation team a selective attention to the relations between the levels of description of the source sign, as well as the most relevant aspects in these relations.

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João Queiroz (www.semiotics.pro.br) is a professor at the Institute of Arts and Design, Federal University of Juiz de Fora, Minas Gerais, Brazil. He earned a PhD in communication and semiotics from the Catholic University of São Paulo (PUC-SP), and received a postdoctoral fellowship in intelligent systems at the School of Electrical and Computer Engineering (FEEC-DCA), State University of Campinas (UNICAMP). His research interests include: Peirce's philosophy and semiotics, biosemiotics, cognitive science, as well as South American and Brazilian literature.

Daniella Aguiar (<http://daniellaguaiar.wordpress.com/>) is a postdoc researcher at the Graduate Studies Program in Literature Studies at the Federal University of Juiz de Fora (UFJF), Brazil. She obtained a bachelor degree in dance at Anhembi Morumbi University, São Paulo; a master degree in dance at the Graduate Studies Program in Dance at the Federal University of Bahia (UFBA); a PhD in Comparative Literature at the Graduate Program in Literature at the State University of Rio de Janeiro (UERJ). Her main research interests are dance and other arts, dance theory, intermediality, and Peirce's semiotics.

Chapter 8

Welby's Significs, Its Developments and International Ramifications

Susan Petrilli

1. Significs, its terminology and official recognitions, ...; 2. The Signific Movement in the Netherlands, ...; References,

...a complete philosophical language at any stage of knowledge short of complete, say the present, would be a hindrance to advance: we do not want our language to fit any particular stage of our knowledge, because then it would not fit the next: we should be like growing boys in an old dress, cribbed, confined, embarrassed, not knowing what to do with ourselves (John Grote, *Exploratio Philosophica*, 1990, Part II, p. 23, cited from Welby 1983 [1903], p. 59)

8.1 Significs, its Terminology and Official Recognitions

Welby's significs found official recognition in the spheres of semiotic and philosophical research as the nineteenth century gradually turned into the twentieth. Such recognition was expressed through a series of editorial initiatives including the publication of dictionary and encyclopaedia entries. Moreover, it was extended to the Signific Movement in the Netherlands which was originally influenced by Welby's research and which developed internationally and independently of Welby across the first half of the twentieth century.

The starting point of the first part of this chapter is the dictionary entry "Significs", coauthored by Victoria Lady Welby (1837–1912) with George F. Stout (1860–1944) and James M. Baldwin (1861–1934), which it comments. The entry was published in 1902, in the *Dictionary of Philosophy and Psychology in Three Volumes*, vol. 2, p. 529, edited by J. M. Baldwin (New York/London, Macmillan, 1901–1905) and is now available in my monograph, *Signifying and Understanding. Reading the Works of Victoria Welby and the Signific Movement* (2009: pp. 194–196). It reads as follows:

S. Petrilli (✉)
The University of Bari "Aldo Moro", Bari, Italy
e-mail: susan.petrilli@gmail.com

Significs

Ger. *Bedeutungslehre*; Fr. *théorie des significations*; Ital. *teorie delle significazioni* (the foreign equivalents are suggested). (1) Significs implies a careful distinction between (a) sense or *signification* (q.v.), (b) meaning or *intention* (q.v.), and (c) significance or ideal worth (q.v.). It will be seen that the reference of the first is mainly verbal (or rather Sensal, q. v.), of the second volitional, and of the third moral (e.g. we speak of some event “the significance of which cannot be overrated”; it would be impossible in such a case to substitute the “sense” or the “meaning” of such event, without serious loss). Significs treats of the relation of signs in the widest sense to each of these.

(2) A proposed method of mental training, aiming at the concentration of intellectual activities on that which is implicitly assumed to constitute the primary and ultimate value of every form of study: i.e. what is at present indifferently called its meaning or sense, its import or significance.

Significs affords also a means of calling attention to the backwardness of language in comparison with other modes of human communication, and to the urgent need of stimulating thought by the creation of a general interest in the logical and practical as well as the aesthetic value of all forms of expression. And it provides a convenient general term under which to work perhaps for an international consensus, and for a natural check upon wilful waste or misuse of the existing resources of language, by bringing to bear upon it a certain deterrent of social and academic “constraint” (see the Editor’s Preface, viii).

Significs makes practically for the detection of lurking confusion or specious assertion in directions where the discipline of formal logic would help less directly and simply. But it is suggested that this study, so far from superseding or displacing or even distracting attention from the disciplines already recognized, would rather render them more effectual because more vitally significant: more obviously related to ordinary experience and interests. It would also bring out the moral value of a greater respect for the traditions and the future of language, and, would, in fact, while preparing the ground for an expansion of the limits of articulate expression, tend to create a linguistic conscience which must beneficially react upon thought, thus bringing about gradually and naturally a spontaneous consensus in definition.

Much work is already being done in this direction. Significs as a science would centralize and co-ordinate, interpret, interrelate and concentrate the efforts to bring out meanings in every form, and in so doing to classify the various applications of the signifying property clearly and distinctly.

Literature A. Sidgwick, *Distinction and Criticism of Beliefs*; Karl Pearson, *Grammar of Science*; Mahaffy, *Modern Babel*, in *Nineteenth Cent.*, November, 1896; Eucken, *Gesch. d. philos. Terminologie* (1879); and *Monist*, July, 1896; Bréal, *Essai de Sémantique*; Jespersen, *Progress in Language*; Tönnies, *Welby Prize Essay*, *Mind*, January and April, 1899; Bacon, Hobbes, and later Whateley, G. Cornwall Lewis, and J. S. Mill are among those who have discussed the general subject. See also E. Martinak, *Psychol. Untersuch. z. Bedeutungslehre* (1901). (V. W., G. F. S., J. M. B.)

The expression “significs” was coined by Victoria Welby towards the end of the twentieth century (1894 circa) to designate the particular bend she wished to confer upon her studies on signs and meaning, signalling her special interest in meaning not only in the cognitive sense but also in relation to values (emotional, ethic, aesthetic, pragmatic), as indicated with the question “what does it signify?” (Welby 1908). In those same years, Ferdinand de Saussure (1857–1913) introduced the term “sémiologie” or “signologie” (Saussure 1916, Eng. trans., p. 48; see also Auroux and Delesalle 1990, p. 106). Significs revolves around the problem of meaning, its conditions, changes and variations (successive and simultaneous) with reference to both verbal and nonverbal language and behaviour. With her choice of the

neologism “significs,” Welby deliberately took her distance from already-existing terms such as “semiotics” and “semantics”, which she believed were restricted in scope and too specialized to accommodate her much broader approach. Possible alternatives to “significs” were “sensifics”, which she used in her paper of 1893, “Meaning and Metaphor”, but which she excluded because of its close association with the world of the senses, and “signics” which failed to grasp the connection between meaning and value, the focal point of her research. “Sensifics” and “significs” appeared together in her 1896 essay, “Sense, Meaning and Interpretation”. In addition to “semiotics” and “semantics”, other terms circulating at the time included “sematology”, “semasiology”, and “semiology” which she also disregarded as restrictive and overspecialized with respect to the sense of her own project. The term “significs” was completely free from technical associations and appeared more suitable for her focus on sign and meaning from the point of view of the relation to values and sense in all its signifying implications.

Significs transcends pure descriptivism and analyzes signifying processes beyond logical-cognitive boundaries to explore the ethical, aesthetic and pragmatic dimensions of sign activity. In a letter to German philosopher and sociologist Ferdinand Tönnies (1855–1936; Schmitz 1985b, pp. cxvii–cxli), Welby explains that she was searching for a word which expressed the union between sign and sense, which did not exist but which she obtained with “significs”. Though coinage of a new term risked seeming no more than a mere desire for terminological innovation, she succeeded in convincing intellectuals like Charles S. Peirce (1839–1914) and Giovanni Vailati (1863–1909) of the validity of her choice. It was thanks to Welby that Vailati discovered Peirce, becoming one of the first Italians to understand the importance not only of his semiotics but also of his pragmatism (see Petrilli 2009, Chaps. 6 and 7 on Peirce, Vailati and Welby, see Petrilli 2009, chaps. 3 and 4). Significs takes its place in current trends in semiotics that transcend the limits of so-called code and message, decodification or equal exchange semiotics in the direction of interpretation semiotics of Peircean inspiration. For Welby, meaning understood in a broad sense as embracing “sense”, “meaning” and “significance” is in becoming in open-ended signifying processes characterized in terms of interpretive creativity, dialogism, otherness, plurivocality, and polysemy.

A problem which immediately arises when reflecting on signifying processes concerns the language in which to formulate one's reflections: This is a problem Welby thematized and was committed to dealing with. Her introduction of the term “significs”—difficult to translate into other languages as amply discussed in her correspondence, for example, with Michel Bréal or André Lalande for the French, or with Giovanni Vailati for the Italian—is already a clear indication of the terminological obstacles holding up new developments in philosophical–linguistic analysis. In the terms proposed by Welby, the problem of language has a double orientation to concern language not only as the object of research but also as the medium through which reflection on language is articulated. Welby considered the linguistic apparatus at her disposal as antiquated and rhetorical, subject to those same limits she aimed to overcome and to those same defects she wished to correct. Her condition was typical of people operating in an era that is characterized by the

transformation and innovation of knowledge: She was faced with the task of communicating new ideas and at once with the need to renew and reinvent the language at her disposal in order to do so.

Welby focused on problems at the centre of debate in the linguistic sciences and the philosophy of language, indeed in the sign sciences generally, still today. These problems are thematized as the object of her significant research, as part of her general quest for the critique of language, but they also concern the conceptual instruments themselves at her disposal, that is, the language she herself uses for the matization. These problems include: The signifying value of “ambiguity”, the role of “definition” in the determination of meaning, the relation between “literal meaning” and “metaphorical meaning”, and the use of metaphor and analogy to enhance the expressive import of language (see Petrilli 2009 and the essays collected on the occasion of the 150th anniversary of Welby’s birth in Schmitz (1990a).

As part of her project for the development of adequate terminology, she coined the term “sensal” for sense on the organismic level as well as for the overall signifying capacity, as opposed to “verbal” which more simply recalls linguistic form, sound, writing, etc. The term “interpretation” was introduced in the title of her important 1896 essay, “Sense, Meaning and Interpretation” to designate a particular phase in the signifying process; but on realizing that interpretive procedure is involved in every phase of the signifying process, she subsequently replaced it with “significance”. She also introduced a set of other related terms such as “significian” for the person who practises signification; the verbs “to signify” and “to signalize”, respectively, for the maximum signifying value of a sign, and for the act of investing a sign with meaning. In the same essay, she formally introduced the term “significs” alongside “sensifics” (with the corresponding verb “to sensify”). However, “sensifics” seemed too closely associated with the world of the senses and was subsequently abandoned in favour of “significs”. Even when Welby used terms that were readily available, such as “sense”, “meaning” and “significance”, she did so with originality, so that in the context of her own theoretical discourse they resounded with new meanings.

In fact, these terms indicate three different aspects of signifying processes described by Welby with her meaning triad. “Sense”, “meaning” and “significance” indicate three progressive and interrelated phases in the development of the capacity for expression, interpretation and signification in relation to experience, practice, to signifying behaviour. Largely, under the influence of Darwinism, which she read critically, Welby viewed the development of the human expressive, interpretive and signifying capacity in an evolutionary perspective. Her concept of “sense” is fundamentally organismic. “Sense” corresponds to the primitive level of pre-rational life; its value is given by its immediate, unintentional and organic response to the environment. However, “sense” in all senses of the word is also used to indicate the overall value of experience: The link between sign and sense is compared with an organism’s response to environmental stimuli. In terms of linguistic usage, analogies of the organismic type serve to underline the potential in language for expressive plasticity and renewal which goes together with progress in knowledge and experience. Welby also offers a more specific definition of “sense” according to which

signifying value is given by use, by the circumstances, state of mind, reference and universe of discourse associated with it. From this point of view, signs acquire a specific sense in conjunction with a concrete communicative context.

"Sense", in general, concerns reference through signs to reality as perceived by the senses; it is viewed as a necessary requirement for all experience. "Meaning" concerns rational life, the intentional and volitional aspects of signifying processes, its value is given by use and is associated with communicative intention. As such, similarly to "sense", the "meaning" of a sign is not fixed and defined once and for all, but is negotiated in concrete signifying and operative situations. With reference to Charles Morris's terminology, while "sense" always has a *denotatum*, "meaning" may only have a *designatum*, depending on whether or not the referent exists according to the modality of existence of the relative universe of discourse (see Petrilli 2009, p. 7.9.). Significance implies both sense and meaning, but transcends them both to concern the bearing, consequence, ultimate value of some event or experience. "Significance" is also used in a more general sense in Welby's later work where "meaning" is not necessarily included. Given that all signs have a referring value and must, therefore, be invested with significance, every sign has significance insofar as it is a sign for the individual who uses it. The following is a statement on the three levels of meaning as conceived by Welby from her important monograph of 1903, *What Is Meaning?*:

There is, strictly speaking, no such thing as the Sense of a word, but only the sense in which it is used—the circumstances, state of mind, reference, "universe of discourse" belonging to it. The Meaning of a word is the intent which it is desired to convey—the intention of the user. The Significance is always manifold, and intensifies its sense as well as its meaning by expressing its importance, its appeal to us, its moment for us, its emotional force, its ideal value, its moral aspect, its universal or at least social range. (Welby 1983 [1903], pp. 5–6)

Although Welby formulated her own views before encountering Charles S. Peirce and certainly independently of him, their research presents interesting affinities. Peirce described significs as that part of "semiotic" which concentrates on the relationship between signs and interpretants, establishing a correspondence between Welby's tripartite division of meaning and his own division of the interpretant into "immediate interpretant", "dynamical interpretant" and "final interpretant". His "immediate interpretant" regards the meaning of the sign as it is ordinarily and habitually used by the interpreter, it concerns the interpreter's immediate response to signs as designated by "sense" in Welby's terminology. The "dynamical interpretant" regards the sign's signification in a specific context; given that it is used according to a specific intention it corresponds to Welby's "meaning". The "final interpretant" concerns the sign at the extreme limits of its interpretive potential, referring to all the possible responses it may provoke in the unending chain of deferrals from one sign to the next. Like Welby's "significance", the "final interpretant" is concerned with the creative potential of the sign (Peirce in Hardwick 1977, pp. 109–110).

Significs is not conceived as a new independent science or theory among others, but as an interdisciplinary method, a critical metalanguage relevant to all signifying systems. It unites the critique of language and knowledge to the critique of prac-

tice. With *significs*, Welby promotes a methodics of everyday life and of scientific research that is oriented by the logic of otherness, by listening, that is dialectic/dialogical, responsible/responsive and free from dogmatism. She also describes *significs* as “philosophy of significance”, “philosophy of interpretation” and “philosophy of translation”. Uniting the experience of the sciences and of philosophy, *significs* is a method of observation and experimentation. With reference to argumentative procedure, Welby theorizes deduction, induction and abduction (what she calls “prediction” or “projection”). She underlines the transcendental character of the *significal* method, not to be confounded with “transcendence” of the metaphysical order. “Transcendence” in the *significal* sense can be associated with the project for “detotalization”, that is, for transcending the limits of any one practical cognitive system, considered as an integral totality rooted in the logic of identity, for overcoming any form of separatism among different disciplines and areas of research.

From a *significal* perspective, the concept of “translation” is closely interconnected with “interpretation” and as such is structural to semiosis. More than as “interlingual” translation, Welby theorizes translation in terms of so-called “intra-lingual” and “intersemiotic” translation, that is, as a method for the acquisition of knowledge and experience: A method of both discovering, testing and using analogy (or in some cases homology), and of identifying analogical and homological relations among the different realms of experience and discourse. *Significs* is diagnostic and associated with a therapeutic approach to linguistic maladies:

It is unfortunate that custom decrees the limitation of the term diagnosis to the pathological field. It would be difficult to find a better one for that power of “knowing through”, which a training in *Significs* would carry. We must be brought up to take for granted that we are diagnosticians, that we are to cultivate to the utmost the power to see real distinctions and to read the signs, however faint, which reveal sense and meaning. Diagnostic may be called the typical process of *Significs*... (Welby 1983[1903], p. 51)

At the centre of Welby’s research on signs, meaning and language are problems still at the centre of debate in sign studies today, including linguistics and philosophy of language: The signifying value of “ambiguity” and of “plasticity” in verbal signs; the role of “definition” in the determination of meaning; the relation between literal meaning and metaphorical meaning; the use of metaphor and analogy, of images and figurative speech in general in augmenting the expressive import of language; the role of analogy and homology in the development of knowledge and interpretive processes and the critique of language. Such issues and areas of research are addressed by Welby in the context of her *significs* both as the immediate object of study and to the end of improving conceptual instruments themselves at our disposal. At the same time, in spite of her constant efforts at rendering expression precise, Welby did not make excessive use of technical terminology. She was critical of technicalism and of recourse to definition as a means of eliminating confusion generated by ambiguity understood in a negative sense, and instead valued such characteristics as the linguistic capacity for polysemy. Definition has a role in language, but must not be mystified. To this end, she distinguished between what she called “rigid” and “plastic” definition. She paid special attention to the need for improving everyday language. The word itself “*significs*” was proposed keeping

account of the everyday expression “What does it signify?”, which aims to evidence the sign’s ultimate value and significance beyond semantic meaning. In her commitment for regeneration in terms of logic, behaviour and values through the critical regeneration of language and backward expression, Welby advocated the need of developing a “linguistic conscience” against the bad use of language which she believed implies poor reasoning, the bad use of logic and argumentative incoherence.

According to Welby, the study of meaning must supersede the limits of philological–historical semantics or of formal logic, and work in an ethical–pragmatic direction with a focus on the relation of signs to values, specially on the “ultimate value”, “import” and “significance” of any piece of signifying behaviour, verbal or nonverbal. Significs is concerned with “the very condition of human intercourse, as of man’s mastery over his world”, as she states in the Preface to her monograph of 1911, *Significs and Language*. From a significant perspective, the problem of signification is the problem of understanding the true value that the sign has for each one of us in “every possible sphere of human interest and purpose”, from everyday experience to the different spheres of scientific research, relatively to all types of language, verbal and nonverbal, and to all types of discourse, from the philosophical–scientific to ordinary everyday discourse. As part of her overall project for the full understanding of the ultimate value of experience, of all signifying processes, whether verbal or nonverbal, significs promotes the development of the capacity for critique, interrogation and improved linguistic usage. In terms of education, critical interrogation is encouraged from infancy. Significs promotes a frame of mind which induces the speaker/significian to ask such questions as “What is the sense of...?”, “What do we mean by...?” and “What is the significance of...?”, which correspond to the three levels of meaning identified by Welby with her meaning triad: sense, meaning and significance.

Significs is a method for philosophical–linguistic analysis in what with Ponzio we have proposed to call a “semioethic” framework (Petrilli and Ponzio 2003, 2010). As anticipated above, with reference to twentieth-century developments in sign, language and communication studies, significs connects up with so-called interpretation semiotics without limiting itself to its cognitive instances; the scope of significs is much broader, given its opening towards the conjunction with axiology and focus on the relation of signs to values. Far from moralizing human experience, or exchanging morality for ethics, or reducing experience to any form of conformism, significs, with its concern for signifying value and translation of the latter into the practices of concrete sign situations, evidences the ethical–pragmatic or the “semioethic” dimension of verbal and nonverbal signifying processes.

Welby was in the habit of discussing her ideas with others and to this end developed a very rich correspondence with numerous intellectuals internationally, many of whom she had met personally. These included: M. Bréal, B. Russell, H. and W. James, H. Bergson, R. Carnap, A. Lalande, F. Pollock, G.F. Stout, F.C.S. Schiller and C. K. Ogden, G. Vailati, M. Calderoni. Charles K. Ogden promoted Welby and her significs as a university student during a 2-year period from 1910 to 1911. However, in his monograph with Ivor A. Richards, *The Meaning of Meaning*, published in 1923 (posthumously to Welby), Ogden does not recognize his debt to Welby (a

part from brief mention in a footnote), even though this important volume bears the traces of her influence throughout (cf. Petrilli 2009, pp. 731–747, 767–782). Welby's research has been largely neglected and if she has not been forgotten altogether, this is largely thanks to her correspondence with Peirce, and not necessarily in her own right as the ideator of signifiics. Her influence all round on cultural circles of her time has gone largely unnoticed having been mostly left unrecognized. Important to remember is that Welby's ideas gave rise to the Signifiics Movement in the Netherlands thanks to the mediation of the Dutch psychiatrist and poet, Frederik van Eeden (Heijerman and Schmitz 1991). Signifiics today is a fascinating topic for many researchers and is slowly winning the attention it deserves. Significant initiatives in this direction are the re-editions of her main works promoted by Achim Eschbach and H. Walter Schmitz (see below), which have sparked off a series of other important projects. Welby's unpublished manuscripts, correspondence included, are available at the York University Archives, Ontario, Canada. My own monograph, *Signifying and Understanding. Reading the Works of Victoria Welby and the Signific Movement* (2009) includes a selection of published and unpublished writings by Welby, including her correspondence with various personalities.

Some of Welby's main writings on signs and meaning include her essays "Meaning and Metaphor" and "Sense, Meaning and Interpretation" (respectively, 1893 and 1896, both now in Petrilli 2009, pp. 421–430, 430–449); the volumes *Grains of Sense* (1897; a selection is now available in Petrilli 2009: pp. 98–111); *What Is Meaning. Studies in the Development of Significance* (1903, second edition 1983); *Signifiics and Language. The Articulate Form of Our Expressive and Interpretative Resources* (1911), second edition in *Signifiics and Language* (1985, which also includes the two essays by Welby mentioned above, as well as a selection of her unpublished papers); three volumes collecting a part of Welby's epistolary exchanges with over 460 correspondents, the first two edited by her daughter Nina (Mrs. Henry Cust): *Echoes of Larger Life: A Selection from the Early Correspondence of Victoria Lady Welby* (1929); *Other Dimensions: A Selection from the Later Correspondence of Victoria Lady Welby* (1931); and the important volume edited by C. Hardwick (with the assistance of J. Cook), *Semiotic and Signifiics. The Correspondence Between Charles S. Peirce and Victoria Lady Welby* (Bloomington, Indiana University Press), 1977. A selection of Welby's published and unpublished correspondence is also now available in Petrilli 2009. In addition to the entry "Signifiics" written in collaboration with J. M. Baldwin and G. F. Stout and published in the *Dictionary of Philosophy and Psychology in Three Volumes*, Welby also wrote the entries "Sensal" (1902, with G. F. Stout) and "Translation" for the same volume, all three published in 1902. Most importantly, Welby at last obtained the official recognition she had hoped for after more than 30 years of dedicated research with publication of her encyclopaedic entry "Signifiics", in *The Encyclopaedia Britannica* (1911, also in Hardwick 1977, pp. 167–175). All three dictionary entries as well as the encyclopaedia entry are now available in Petrilli 2009, pp. 194–196, 345–350).

Since the mid 1980s and as the direct consequence of the 1983 and 1985 re-editions of Welby's monographs, *What Is Meaning?* and *Signifiics and Language*, three collections of Welby's writings have also appeared in Italian, translated and

edited by myself. Overall, these Italian collections include her important essays of 1893 and 1896, excerpts from *Grains of Sense*, *What Is Meaning?* and *Significs and Language*, her encyclopaedia entry "Significs", a selection from her so-called essays, and other short unpublished papers: *Significato, metafora, interpretazione* (1985); *Senso, significato, significatività* (2007); *Come interpretare, comprendere, comunicare* (2010).

An initial group of relatively recent publications on Welby includes a series of papers by various authors (S. Auroux and S. Delesalle, P. M. Baker, H. Bowsfield, P. Chipcase, G. Deledalle, W. T. Gordon, J. G. Juchem, E. Heijerman, D. Hughes, R. Nolan, S. Petrilli, A. Ponzio, T. J. Reiss, H. W. Schmitz) in the volume *Essays on Significs* (ed. H. W. Schmitz, 1990a). This volume also includes a "Bibliography of Publications on Lady Welby and her Significs"; by H. Walter Schmitz a monograph-length introduction to *Significs and Language* (1985; this volume contains Welby's 1911 monograph supplemented with a selection from her published and unpublished writings, complete with the bibliography of her writings). Schmitz has also authored numerous essays on significs in both English and German, including a critical edition of Welby's correspondence with B. Russell; and with A. F. (Erik) Heijerman, he has edited the collective volume *Significs, Mathematics and Semiotics. The Significs Movement in the Netherlands* (Münster: Nodus Publikationen), 1991. In addition to numerous essays in journals, chapters in book, entries in dictionaries and encyclopaedias, my own writings on Welby and significs include the Italian monograph *Significs, semiotica, significazione* (1988); in English, Appendix I, "The Problem of Signifying in Welby, Peirce, Vailati, Bakhtin" (1990); my Phd dissertation *Segno e valore. La significs di Welby e la semiotica novecentesca* (1993–1994); the monograph, *Su Victoria Welby. Significs e filosofia del linguaggio* (1998); and in English *Signifying and Understanding. Reading the Works of Victoria Welby and the Signific Movement* (2009). The latter includes a selection of published and unpublished writings by Welby, with a complete bibliography of her writings as well as a bibliography of writings on Welby, the Significs Movement in the Netherlands, and current developments. With respect to what has been signalled so far still other writings are available as reported in the relative bibliographies in *Signifying and Understanding*. A special issue of the international journal *Semiotica* dedicated to Welby and her Significs titled, *On and Beyond Significs: Centennial Issue for Victoria Lady Welby (1837–1912)*, edited by Frank Nuessel, Vincent Copliet and myself, offers a collection of contributions from authors worldwide worldwide, published in 2013.

8.2 The Signific Movement in the Netherlands

Significs was introduced to the Netherlands through the mediation of the Dutch poet, psychiatrist and social reformer Frederik Willem van Eeden (1860–1932). Van Eeden met Welby for the first time at an International Conference on Experimental Psychology, in 1892, in London. At the conference, Welby distributed her pam-

phlet, *The Use of “Inner” and “Outer” in Psychology. Does the Metaphor Help or Hinder?*, presenting a collection of extracts intended to exemplify and critically interrogate language used in the field of psychology, with a special focus on metaphor, as indicated in the subtitle. Van Eeden visited Welby on various occasions, and remained in epistolary contact with her until 1912, the year of her death. Welby was interested in developing and spreading signifiacs as widely as possible, and van Eeden was interested in this new opening in studies on language, meaning and communication which he readily promoted and presented to his circle of friends (some excerpts from their correspondence to this effect are appended to the present chapter), specially after their encounter in London in 1907, somehow prefiguring what in time was to become the signifiacs movement in its various expressions (see van Eeden 1971–1972). Van Eeden introduced the term *signifiaca* into the Netherlands (see van Eeden 1908, p. 224), but did not explicitly mention Welby or her signifiacs in his first signifiacal study, the treatise *Redekunstige Grondslag van Verstandhouding* (The Logical Foundations of Communication), published between 1893 and 1897 (cf. van Eeden 1897). Van Eeden also introduced Welby’s signifiacs to Germany, in the first instance through Erich Gutkind (1877–1965), followed by Gustav Landauer (1870–1919), Martin Buber (1878–1965) and Florens Christian Rang (1864–1924). With these scholars and still others, van Eeden founded the so-called ForteKreis (Forte Circle) in 1914, which, however, did not last through the first year of World War I. In any case, Welby exerted a strong influence on the development of signifiacs in the Netherlands, though this is not necessarily registered in writings on her, or at least not sufficiently so. An important *trait d’union* among the different approaches and methodologies is, for example (though very broadly), a shared interest in the problem of knowledge and communication through signs. However, despite the extensive literature in Dutch on the history of signifiacs, Welby’s approach to signifiacs remained mostly unrecognized, especially outside the Netherlands.

After an incubation period with the publication of a few scattered essays, the Signific Movement in the Netherlands developed through two main phases: the first began in 1917 but only continued its activities until 1926; the second, and the richest, lasted from 1937 to 1956.

As recalled by mathematician and philosopher Gerrit Mannoury (1867–1956) in his essay of 1969, “A Concise History of Signifiacs”, a Symposium on “The Meaning of Meaning” took place in England in 1920. The proceedings were published in the philosophical journal *Mind* between 1920 and 1921. Mannoury also recalled the monograph of 1923 by Ogden and Richards, *The Meaning of Meaning* (see Petrilli 2009, pp. 731–736). These two events are not only connected to each other, but are clearly traceable to Welby and her signifiacs. In the more strictly philosophical and philosophical–linguistic spheres, the theory of meaning was developed in different directions to cover the problem of reference, truth, intentionality, figurative and metaphorical meaning and critique of language with special reference to verbal language and language acts, conceptual and terminological criticism, and with important with important openings from a more broadly cultural perspective on such fields as education, social reform, psychology, mathematics, and political discourse. Mannoury had no doubts that the Signific Movement in the Netherlands and the

Symposium on meaning both stemmed from Welby's significs. Nor did this exclude the fact of more distant origins at the source of both events, leading to the development of studies on sign and communication as they took shape during the whole course of the twentieth century.

The first group of people in the Netherlands with a common interest in Significs met during World War I, in 1915, anticipating the "Signifische Kring" (Signific Circle, 1922–1926), which was officially founded in 1922 (cf. Mannoury 1983 [1969], pp. xli–xlii). The plan in 1915 was to begin philosophical reflection on deviating slogans used to promote war (cf. Brouwer 1946). A special committee was set up for the purpose, and its members were to meet on neutral territory. However, van Eeden, his old friend (sinologist and man of letters) Henri Borel (1869–1933), mathematician and logician (but also mystic and philosopher) Luitzen E. J. Brouwer (1881–1966) and social worker Henri P. J. Bloemers (1890–1947) proposed a general program which was not approved by the majority of committee members, so the first group of significians broke up due to internal opposition. Though these first-generation significians were working together to found an international school of significs, those just named were excluded from the founding committee. However, van Eeden, Brouwer and later Borel, Bloemers (who was soon to withdraw), joined by Dutch poet and jurist Jacob Israël de Haan (1881–1924), mentioned by van Eeden in a letter to Welby dated 11 February 1912 (now appended below), and Mannoury himself, founded the International Institute for Philosophy (*Internationaal Instituut voor Wijsbegeerte*) in Amsterdam, on 21 September 1917. This was the first official group of significians inaugurating the initial phase in the development of the Signific Movement in the Netherlands. Activities continued for the next 5 years with lessons, discussions, meetings and foreign correspondences with such scholars as Martin Buber, Erich Gutkind, Eugen Ehrlich and Rabindranath Tagore (1861–1941).

On Mannoury's account, in 1922, the *Internationaal Instituut voor Wijsbegeerte* was transformed into another organization, the *Signifische Kring* (Signific Circle), which, however, only lasted a few years, precisely from 21 May to 1922 till 2 December 1926. In his essay "Synopsis of the Signific Movement in the Netherlands. Prospects of the Signific Movement" 1946 (now in Petrilli 2009, pp. 834–839), Brouwer narrates that the *Instituut* was founded by a "group of seven" counting van Eeden, Borel, Bloemers, de Haan, Mannoury, Brouwer himself as well as the physician L. S. Ornstein (1880–1941), while founding members of the Signific Circle included van Eeden, Mannoury, Brouwer and Father Jacques van Ginneken (1877–1945, linguist, psychologist, theologian and subsequently professor at the University of Nimeguen). Mannoury emerged as the leader of the signific movement, and, of course, these different initiatives also benefited from the involvement of other major Dutch personalities. Members of the Signific Circle met regularly and published both individual and collaborative writings. All the same, their activities ended prematurely due to conflicting conceptions about meaning, language and logic, and because of the tension caused by disagreement over the main goals to pursue as a group.

The Institute ran a multilingual journal, *Mededeelingen van het Internationaal Instituut voor Wijsbegeerte te Amsterdam*, which in 1918 published the "Voorbereidend manifest", authored by Bloemers, Borel and Brouwer. Presumably, this

journal was active until approximately the mid-1920s, when it closed for lack of funds and lack of interest on the part of other cultural or philosophical journals in the Netherlands, and of other publishers. In his essay of 1969, Mannoury further recounts that 10 years later, in 1936, the journal *Synthese. Maandblad voor het Geestesleven van onze Tijd* (*Synthese. A Monthly for the Cultural Life of our Time*) was founded (cf. Mannoury 1983 [1969], p. xiii). Mannoury took notes of meetings and discussions held by the International Institute for Philosophy as well as by the Significs Circle, which were published at a later date in the journal *Synthese* (cf. Mannoury 1939), while notes by others were published in the form of a collective volume titled *Signifische dialogen* (*Significal Dialogues*), produced by various members of the Significs Circle (cf. Brouwer, van Eeden, and van Ginneken 1937, 1939; cf. also Mannoury 1983 [1969], p. xlii). Both Mannoury's reports and the collective volume, *Signifische Dialogen*, had to wait several years for publication.

In spite of difficulties relating to institutions connected with significs, the ferment of ideas continued. The journal *Synthese* was founded by a younger generation of significians from different disciplines, under the editorship of the psychologist and significian David Vuysje (1900–1969), and may be considered as the official voice of the signific movement from when it was founded in 1936 through to the 1960s. Its editorial activities only came to an end in 1963, and were continued in 1968 when the journal *Methodology and Science* was also founded. Referring to *Synthese* Mannoury explains that: “At the beginning of 1968 the General Editorial Committee changed the Journal's name to *Methodology and Science*” (Mannoury 1983 [1969], p. xlii).

Vuysje became the new leader of the Signific Movement after Mannoury, as was Otto Neurath for the Vienna Circle and Unity of Science Movement (cf. Schmitz 1990b, p. 223). These movements also involved Charles Morris, author of such renowned monographs as *Foundations of the Theory of Signs*, 1938, *Signs, Language and Behavior*, 1946, but also of the not less important *The Open Self*, 1948, *Varieties of Human Value*, 1956, *Signification and Significance*, 1964. Morris was a personal acquaintance of Mannoury. Morris directed a special section of the journal *Methodology and Science*, entitled “Unity of Science Forum”, with Philipp Frank and Otto Neurath. This section was dedicated to the logical empiricists and their critique of language. In 1948, Morris and Frank introduced another section entitled “Logical Empiricism”, presenting papers on logical empiricism as an important phenomenon in twentieth-century intellectual history. The *Institute Français de Sociologie* in Paris also contributed to the journal with papers of a sociological order.

On Brouwer's account after the first group of significians broke up in 1915, the “minority” founded the International Institute for Philosophy in 1917, while in 1916 the “majority” (no better specified) founded the International School for Philosophy (*Internationale School voor Wijsbegeerte*), described as the beginnings of the school by the same name still existent today in Amsterdam. The International Institute for Philosophy also planned to found the International Academy of Practical Philosophy and Sociology, originally conceived by the German sociologist and philosopher, Ferdinand Tönnies, Welby Prize winner for the essay “Philosophical Terminology (I–III)” (Tönnies 1899–1900). The Academy had a grand project for “mutual understanding”, and ultimately for the “humanisation of humanity”, as de-

scribed by David Vuysje in a paper originally published in 1953 (see p. 257), titled "Signific. Its Tendency, Methodology, and Applications" (now in Petrilli 2009, pp. 848–876). Vuysje's account corresponds to Brouwer's earlier description of 1946, which he seems to undersign and develop.

The main pillars around which was constructed the grand project of the International Academy of Practical Philosophy and Sociology, ultimately of the International Institute for Philosophy, included: the criticism of language, therefore, concept criticism, the relation between language, concept and behaviour, and the connection between language, behaviour and values. As anticipated, a main concern was "mutual understanding". New terms were required to name the values necessary to achieve mutual understanding among individuals forming the human community. In fact, one of the primary tasks of the Academy was to create a new vocabulary according to the principle of "linguistic gradation" (that is, the principle of gradual transition across different poles). Scholars invited to participate in the Academy's activities included, among others, Giuseppe Peano (1858–1932), Martin Buber (1878–1965), Fritz Mauthner (1849–1923) and Rabindranath Tagore (1861–1941). Significs was obtaining consensus as a new approach to sign, language and communication, as an ethical perspective, and as a way to social reform. Unfortunately, however, for different reasons, including financial difficulty, the Academy in fact was never inaugurated.

The problem of understanding and misunderstanding, of misinterpretation rising from ambiguity considered in a negative sense, that is, ambiguity understood as generating confusion and inappropriate behaviour, were often at the centre of attention of the significians, thereby representing a sure link with problematics at the centre of Welby's own concerns (cf. Petrilli 2003a, b). Mannoury himself was particularly interested in Welby's critique of terminology (cf. Mannoury 1949, p. 12 ff.), though he was both appreciative and at once critical of her work. In any case, Dutch significians gradually lost sight of Welby's views though she was never completely forgotten.

In 1953, *Synthese* published David Vuysje's essay titled, "Significs. Its Tendency, Methodology, and Applications". He outlines the principles inspiring the Significs Circle in the following terms:

This *Signific Circle* proclaimed in their declaration of principles *a. o.* that signific contains more than criticism of language, also more than synthesis of language, and that in opening a deeper insight into the connections between words and the needs and tendencies of the soul, it may affect in a wholesome way the future social and mental conditions of man. But, apart from this, it emphasized the *empirical* tendencies of the signific investigation by adding that this investigation should be carried on more systematically than before and include, besides an introspective investigation into the subconscious elements, the application of experimental and statistical methods (Vuyse 1953, p. 259).

This chapter concludes with a glossary of terms, in some cases used by other sign theories with different meanings: "act of communication", "analytic significs", "concept", "dispersion", "functional elements", "hearer", "language", "psychic correlate", "signification", "Significs", "Speaker", "Synthetic significs", "Word-image", "Word-picture" (pp. 261–262).

The editorial board of the journal *Synthese* promoted the *Internationale Signifische Studiegroep* (International Signific Study Group), which was founded in 1937 by Mannoury's students and followers. After approximately 10 years from the dissolution of the Significs Circle, the intention of this new study group was to continue the work of the former, but on a broader basis, giving new life to what was emerging as the Significs Movement in the Netherlands. On Mannoury's account, the general need for conceptual criticism had emerged in terms that were neither purely speculative nor purely metaphorical (Mannoury 1983 [1969], p. xlii). At the time, both Mannoury and his follower, mathematician and logician David van Dantzig (1900–1959), held courses in significs at the University of Amsterdam.

The International Signific Study Group was also joined by Neurath, evidencing the close connection between the Signific Movement, the Vienna Circle and the Unity of Science Movement, developed from the 1930s to the 1950s. In fact, the plan was to regularly exchange views and publications on the critique of linguistic phenomena, especially with the Unity of Science Movement, which also implied collaboration with the Warsaw school (Lukasiewicz, Kotarbinski, Lesniewski, Tarski, Ajdukiewicz, Chwistek and others). In "Significs. Its Tendency, Methodology, and Applications", Vuysje reports the declaration made by the International Group for the Study of Significs concerning its main objective and metadisciplinary perspective: "The practising of analytic and synthetic significs in general, and its application to the theories of the foundations of sociological, cultural, political and exact sciences in particular" (in Vuysje 1953, p. 260).

With German occupation in the Netherlands, after the first International Signific Summer Conference organized in 1939 by the Signific Study Group, public meetings were interrupted and significians only met again in 1948. At that time, they called themselves the *Internationale Signifisch Genootschap* (see International Society for Significs 1948, for the Charter of this society). Scholars participated from different countries in Europe as well as from the USA. For Europe beyond the Netherlands, the countries represented included France, Switzerland, Germany, Norway, England. In 1948, members of the journal *ETC: A Review of General Semantics* also announced their project to collaborate with the International Society for Significs, in addition to the project for collaboration between the latter and the International Society of Semantics.

Vuysje summarizes the program of the International Society for Significs as follows:

The new program pursues theoretical as well as more practical aims; it continues the research into the theories of the foundations of science and aims at the building up of an efficient scientific terminology; furthermore it promotes the empirical study of group languages (content analysis, slogan analysis, bias analysis, etc.). (Vuysje 1953, p. 260)

With Mannoury's death in 1956, followed by van Dantzig in 1959, the Signific Movement came to an end, in spite of the fact that Vuysje was appointed external reader for significs at the University of Amsterdam in 1961.

That which emerged as the Signific Movement from 1930s onwards, ensued from the encounter among a series of different factors: collaboration among scientists working in different areas, but united by a common signific quest; introduction of significs into courses at the University of Amsterdam taught by de Haan

(ruthlessly murdered in 1924, during his stay in Palestine, see the translator's note to the English translation of Mannoury's paper titled "Today and Tomorrow", 1973 ([originally 1939]), now appended to the present chapter), as well as by Mannoury, and van Dantzig; publications relating to significs; and repercussions of all this work on other scholars. The movement referred to the journal *Synthese* which, to repeat, was active from 1936 to 1963, followed by *Methodology and Science* in 1968.

Other significant events contributing and reinforcing the tradition of studies in significs include the fact that: (1) representatives from all main scientific disciplines contributed to the Signific Movement in the Netherlands from 1937 onwards; (2) ten international summer conferences on significs were held between 1939 and 1954. These conferences focused on the critique of language and the relation between language and behaviour, and benefited from international openings with the participation of scholars from various Western countries (the Proceedings were published in *Synthese*); (3) the Dutch significians worked closely with the Vienna Circle, the Unity of Science Movement, with Arne Naess and his collaborators, and with the Circle of Swiss scholars connected to the journal *Dialectica* and, of course, with numerous individual scholars such as Charles Morris. In 1938, Morris's *Foundations of a Theory of Signs* was published as an issue of the *Encyclopaedia of Unified Sciences of Chicago* (translated into Italian with introduction and comments by Ferruccio Rossi-Landi in 1954, and re-proposed by myself in a new edition of 1999).

In 1968, the psychiatrist Pieter H. Esser, a member of the *Internationaal Significisch Genootschap* since the 1930s, founded the journal *Methodology and Science* which continued publishing until 1995. As anticipated, the intention was to continue the work of the journal *Synthese*, and to maintain a high level of interest in significs. On Mannoury's account, *Methodology and Science* was the new and completely international version of *Synthese* (Mannoury 1983 [1969], p. xlii). Though we can no longer speak of a real and proper signific movement, studies continue to appear both on the history of significs as well as on its theoretical aspects in relation to research on signs, language and communication (see the bibliography "On Welby, the Signific Movement and Current Developments", in Petrilli 2009). And though the significians often had different opinions about programs, goals and even what to understand by the term "significs", the different trends can all somehow be traced back to Welby and her studies on signs, meaning and language.

The Signific Movement unfolded in three directions: sign analysis of "meaning" and "interpretation" in the processes of communication and knowledge acquisition; signific critique of terminology; education and social reform (see Schimtz 1990). On developments of the signific movement and its origins, see the chapter entitled "Welby's influence. Theories and Movements", in Signifying and Understanding (Petrilli 2009, Chap. 7). A common orientation shared by significians is their commitment to the axiological dimension of signifying processes, as foreseen by Welby who explicitly thematized the relation of signs to values. The signific method and significs-related problematics were at the centre of scientific debate, across the first half of the twentieth century, engaging the attention of the international intellectual community well into the 1950s. And, given the focus on values, this particular trend in sign studies continues to be relevant more than ever in today's world.

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Susan Petrilli is Professor of Philosophy and Theory of Languages at the University of Bari “Aldo Moro,” Italy, Department of Lettere, Lingue e Arti, Italianistica e Culture Comparete. She is Director of the PhD program in Language Theory and Sign Sciences at the same University. Her principal research areas include philosophy of language, semiotics, general linguistics, biosemiotics, communication studies, interpretation and translation theory, theory of literature, ideology, value theory, subjectivity, semioethics. As editor and translator she has contributed to spreading the ideas of such figures as Victoria Lady Welby, Charles Peirce, Mikhail Bakhtin, Charles Morris, Ferruccio Rossi-Landi, Giorgio Fano, Thomas Szasz, Thomas Sebeok. She is advisory editorial board member of many international journals and co-director of several book series in Italy. In 2008 she was nominated 7th *Thomas A. Sebeok Fellow of the Semiotic Society of America*. In 2012 she was nominated Academic adviser of the Institute of Semiotics and Media Studies (ISMS), Sichuan University, Chengdu, China. She has authored numerous books, essays and articles in international reviews and miscellanies. The following are some of her books in semiotics that are essential to an understanding of this interdisciplinary: *Significs, semiotica, significazione* (Petrilli 1988), *Materia segnica e interpretazione* (1995), *Che cosa significa significare?* (1996), *Su Victoria Welby: Significs e filosofia del linguaggio* (1998), *Teoria dei segni e del linguaggio* (Petrilli 1998a), and *Percorsi della semiotica* (2005). In addition, she has coauthored several additional works on semiotics: *Philosophy of Language: Art and Answerability in Mikhail Bakhtin* (Ponzo, Petrilli 2000), *Thomas Sebeok and the Signs of Life* (Ponzo, Petrilli 2001), *The Semiotic Animal* (Deely, Petrilli, Ponzo 2005), *Reasoning with Emmanuel Levinas* (A. Ponzo, S. Petrilli, J. Ponzo 2005), *Semiotics Today* (2007): *From Global Semiotics to Semioethics* (Petrilli, Ponzo 2007) and

Semiotics Unbounded (2005): *Interpretive Routes through the Open Network of Signs* (Petrilli, Ponzio 2005), *Lineamenti di semiotica e di filosofia del linguaggio* (Petrilli, Ponzio 2008).

Her most recent monographs include: *Significis and Understanding. Reading the Works of Victoria Welby and the Signific Movement* (2009), *Sign Crossroads in Global Perspective. Semiotics and Responsibilities* (2010), *Parlando di segni con maestri di segni* (2011), *Un mondo di segni. L'aver senso e il significare qualcosa* (2012), *Expression and Interpretation in Language* (2012), *The Self as a Sign, the World and the Other* (2013), *Riflessioni sulla teoria del linguaggio e dei segni* (2014), *La vita dei segni. Percorsi della semiotica* (2015), *Victoria Welby and the Science of Signs. Significs, Semiotics, Philosophy of Language* (2015).

Part II
Language, Literature and Semiotics

Chapter 9

Crafting the Literature of Semiotic Possibility: From the Metaphysical to the Detective Story in *The Name of the Rose*

Peter Pericles Trifonas

9.1 Prologue

According to Umberto Eco in *Postscript to The Name of the Rose*,

I wrote a novel because I had a yen to do it. I believe this is sufficient reason to set out to tell a story. Man is a storytelling animal by nature. I began writing in 1978, prodded by a seminal idea: I felt like poisoning a monk. I believe a novel is always born of an idea like this: the rest is flesh added along the way. The idea must have originated even earlier. Afterward, I found a notebook dated 1975 in which I had written down a list of monks in an unspecified monastery. Nothing else. (13)

The “flesh added along the way” is the source of what has caused the intense speculation that has fed critical discussion, so to speak, regarding the sources and the purpose(s) of what Eco has intended in writing *The Name of the Rose*. Till date, there have been two popular approaches to critical readings of the novel: (1) the criticism treating the novel as, more or less, a “clear-cut” representation of the genre of detective fiction and, (2) the criticism treating the novel as the actualization of a self-reflective treatise (generated in the current milieu of intricate postmodern-poststructuralist debating of sign theory) intended to construct an exegetic platform whereby the intertextual field functions to serve Eco’s digressions into the polemics of semiotics. As the novel addresses Eco’s concerns for both these “subjects” by utilizing elements of each in great detail to create the text, the two critical approaches cited above are not and should not be in themselves mutually exclusive hermeneutic paths. This chapter will present a “close reading” of *The Name of the Rose* and to a certain extent *Foucauld’s Pendulum*, from a semiotico-comparativist viewpoint, in light of the detective story genre it flirts with and the corpus of Eco’s writings, theoretical and otherwise. Specifically, it will examine how the aesthetics of textual production as generated through the lexical signs and codes manifesting the dis-

P. P. Trifonas (✉)

Ontario Institute for Studies in Education/University of Toronto, M5S Toronto, ON, Canada
e-mail: peter.trifonas@utoronto.ca

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cursive text of the novel work to engender what might be called a recrafting of the detective story from the narrative domain of the metaphysical tale of a mourning for the truth to the “literature of semiotic possibility.”

9.2 Divining Metaphysics: Medieval Sign Theory and the Word of God’s Book

Whereas the semiotic self-consciousness of *The Name of the Rose* establishes its “postmodernity,” the intellectual preoccupations of the period within which it is set are also reflected in the dialogical structuring of the text. The meta-historical recreation of the early fourteenth century within the novel (dated the end of November 1327, to be precise) acknowledges not only the arguments for metaphysical determinants of meaning-making and truth, as specified by the religious doctrine of the Catholic church, but also outlines quite lucidly the theologically based ideological and political clashes prevalent in the period that occurred due to changes of attitude toward the philosophy of language. When viewed as a phase of history in the course of Western philosophy, sign theory is considered to be the singular and most distinguishing feature of epistemological development in the Middle Ages. It is a milieu exemplifying a faithful and unquestioning adherence to the onto-theologically sanctioned certainty of the *Logos*, the metaphysical foundations of which, has tended to dominate the epistemological development of Western civilization since its inception. The Middle Ages may constitute the last time during the course of human history that language, meaning, and truth were un(equ)ivocally united. A major twentieth-century semiotic theorist, Eco has considered—primarily via his theoretical writings—the implications of a strictly medieval stance for the nature of meaning making and the mental representation of reality as it is constructed through the effects of systems of signification on the cognizing subject. Furthermore, it could be argued that the theme relating virtually all of Eco’s semiotic research is a “rigorous” examination of how beings perceive the world and how accurately or inaccurately language affects cognition as a virtualized recording of phenomena occurring during the perception process. It is in this respect that the search for the “truth” of meaning between the signs of language and the world of reality is a problem of central concern for Eco in *The Name of the Rose* and a source of mourning for the novel’s detective.

To work toward a discussion of this exemplary problem through a more practicable focus of theory as provided by the formulizability of a narrative remodeling of ideas available to a fictional text, the discourse of the actual tale is constructed around the perspective of a fourteenth-century Benedictine monk, Adso of Melk. Eco explains that the story is told “(with its mysteries, its political and theological events, its ambiguities) through the voice of someone who experiences the events, records them with all the fidelity of an adolescent, but does not understand them (and will not understand them fully even as an old man, since he chooses a flight into the divine nothingness, which was not what his master had taught him)—to

make everything understood through the words of one who understands nothing” (*Postscript* 33–34). Quoting the Gospel according to John, Adso the elder—writing many years after the actual events at the abbey—asserts in the Prologue:

In the beginning was the Word and the Word was with God and the Word was God. This was beginning with God and the duty of every faithful monk would be to repeat every day with chanting humility the one never changing event whose incontrovertible truth can be asserted. (Eco 1983, p. 12)

The statement concretizes a theological belief in the relationship between language and faith, hence meaning, since the embodiment of meaning lies ultimately in the oneness of divinity and language as a totalizing affirmation of faith. Ultimately, an unyielding faith in the Word is a sign of an unperturbed faith in God. Implicit in this logocentric logic is the *absoluteness* of truth in the Word of an omnipotent God and the un(equ)ivocal nature of meaning produced from its visible signs of life. Traditionally, theology did not and has not questioned the divine right of God’s Law and its delineation of power according to this metaphysic of the *Logos*. How could the church deny faith in the voice of God, as is manifest in the Word of the Book of God, to dispute the embodiment of order in creation and to belie the metaphysical determinants of a sacred truth? Revealing the lack of absolutes, or underlying relations of signs or order in reality that is discernible through “reasoned inquiry,” would be tantamount to demonstrating the absolute impotence of God and proof that he did not, in fact, exist. Theologically, the logicity of the world is seen as preordained and limited only by the possibility for self-contradiction justified only of an omnipotent God. No knowledge is certain because it is therefore out of the realm of the empirical and contingent to God’s will: a metaphysical matter of faith.

It is true that a manuscript written by a Benedictine monk during the Middle Ages could not consider the world of signs as anything other than embodying the “incontrovertible truth” of God through the divine mediation of a metaphysical *Logos*. However, the innocence that is perceived later in the novel proper—during which time the younger Adso actually “lives out” the spatiality of narrated events—is tempered in the passage below by a more contemporary view of reading signs not as referential proofs of external reality, but as the rereading of the “signs of signs,” or words, in this case:

But we see now through a glass darkly, and the truth, before it is revealed to all, face to face, we see in fragment (alas, how illegible) in the error of the world, so we must spell out its faithful signals even when they seem obscure to us and as if amalgamated with a will wholly bent on evil.... I prepare to leave on this parchment my testimony as to the wondrous and terrible events that I happened to observe in my youth, now repeating verbatim all I saw and heard, without venturing to seek a design, as if to leave to those who will come after (if the Antichrist has not come first) signs of signs, so that the prayer of deciphering maybe exercised on them. (Eco 1983, p. 12)

Now face-to-face with the end of mortal life, the old monk modifies and redefines the meaning of an “incontrovertible truth” of the holy *logos* that he once embraced in youthful exuberance while a novice and he begins to understand the significance of the concepts in terms more spatiotemporally than spiritually, directed by the personal wisdom of a lifetime’s worth of experience(s). Being aware that the immanent

death of the author (here himself) is tantamount to breaking the corporeal link between the word as sign and its physical referent that determines the onto-theological reality of truth and hence meaning, the sole responsibility of deciphering the significance of the text as a sequence of signs is placed squarely upon the shoulders of the reader. The ontology for the “truthfulness” of meaning productions is not entrenched in the “logos” of Adso’s text, but in the way the reader’s real-world experiences (intertextual and extratextual) are brought to bear upon the reading process through a self-reflexive focus that would allow for personal transformations of what the author had originally intended, by providing a written set of lexical signs for a given set of propositions. This position regarding the act of textual interpretation is discussed by Eco in *Semiotics and the Philosophy of Language* with respect to the symbolic mode of textual production:

The symbolic mode is thus not only a mode of producing a text, but also a mode for interpreting every text—through a pragmatic dimension: “I want to interpret this text symbolically.” It is a modality of textual *use*. . . . In modern aesthetic experience, the possible contents are suggested by the co-text and by the intertextual tradition: the interpreter knows that he is not discovering an external truth but that, rather he makes the encyclopaedia work at its best. . . . In any case, behind every strategy of the symbolic mode, be it religious or aesthetic, there is a legitimating theology, even though it is the atheistic theology of unlimited semiosis or of hermeneutics as deconstruction. A positive way to approach every instance of the symbolic mode would be to ask: which theology, legitimates it? (Eco 1984, p. 163)

Allowing the narrator to tell the story from within the Middle Ages rather than from outside of it, Eco can justifiably consider the real-world implications of a legitimating theology upon theories of the “truth” of meaning vis-à-vis semiosis and language as the result of fabulaic alternatives important to the various themes of the text. What the elder Adso, like Eco, leaves for the reader(s) to procure from the manuscript are not the self-validating truths of a metaphysically determined *Logos*, but the textual means for recourse to a possibility of interpretations of events twice removed from the reality that are related as “signs of signs” by the younger Adso and for which there may be more than a single explanation (to be derived in strictly personal terms) according to the effects of extratextual influences (i.e., culture, intellect, imagination, etc.) upon perception. In adherence to the medieval tradition of chronicle writing, Adso’s desire for transparency of witness reflects the attempt on the part of the narrator to facilitate the impartiality of discourse; however, there is an ironic lack of understanding displayed by the monk at both stages of his life despite self-conscious reflection upon the events which occurred at the abbey:

I did not then know what Brother William was seeking, and to tell the truth, I still do not know today, and I presume he himself did not know, moved as he was solely by the desire for truth, and by the suspicion—which I could see he always harboured—that the truth was not what was appearing to him at any given moment. (Eco 1983, p. 14)

Indeed, the answer to the implied question, what is (the) truth?—referring to the potential for deciphering the meaning of those mysterious events of the abbey murders—is avoided through the reworking of the theme at the novel’s end. The discussion between Adso (the younger) and William facilitates the opening of an ideological progression away from a position in support of a metaphysically minded

determination of truth. This disillusionment in the (syn)protagonists has resulted from the outcome of the events at the abbey and its effects are readily evident in the anticlimactic apocalypse of the burning of the library:

Its hard to accept the idea that there cannot be an order in the universe because it would offend the free will of God and His omnipotence. So the freedom of God is our condemnation, or at least the condemnation of our pride.

I dared for the first and last time in my life, to express a theological conclusion: "But how can a necessary being exist totally polluted by the possible? What difference is there, then, between God and primigenial chaos? Isn't affirming God's absolute omnipotence and absolute freedom with regard to His own choices tantamount to demonstrating that God does not exist?"

William looked at me without betraying any feeling in his features, and he said, "How could a learned man go on communicating his learning if he answered yes to your question?" I did not understand the meaning of his words. "Do you mean," I asked "that there would be no possible and communicable learning any more if the criterion for truth were lacking, or do you mean you could no longer communicate what you know because others would not allow you to?" (Eco 1983, p. 493).

In an age-demarking spiritual uncertainty and moral relativism regarding the *true* nature of truth, to which Adso the elder refers in the Prologue as a world that presently inverted "walks on its head" (Eco 1983, p. 15), a proclamation of the death of the *Logos* (like that of Nietzsche's) would be a philosophical consequence of a lapsed faith in God. Yet the ramifications of this declaration would strike at the very heart of human order for a monk, thus breaking, once and for all, the metaphysical linking of the word and the flesh as manifest in the dimensional world of natural beings. In this sense, the loss of a center is a prelude to death, if not death itself, and cause for mourning that the truth cannot not be found. Derrida's comments concisely illucidate the semiotic crux of this dilemma for the religio-philosophical foundations of Western culture:

All the metaphysical determinations of truth, and even the one beyond metaphysical ontology that Heidegger reminds us of, are more or less immediately inseparable from the instance of the *logos*, or of a reason thought within the lineage of the *logos*, in whatever sense it is understood.... Within this *logos*, the original and essential link to the *phonè* has never been broken.... As has been more or less implicitly determined, the essence of the *phonè* would be immediately proximate to that which within "thought" as *logos* relates to "meaning".... (10–11)

Plagued with doubt and despair, what Nietzsche essentially expressed was a lack of faith in the existence of God, but the elder Adso (and William also) cannot be so bleak-hearted as to obliterate the religious grounds for faith and to replace it with the existential angst of a supremely nihilistic vengeance upon the figure of almighty. What is definitely questioned, however, as Adso's words reveal, is the absoluteness of meaning or the finality of truth: "I believed instead that the rational spirit should... feed only on the Truth, which (I thought) one knows from the outset" (Eco 1983, p. 15). For the nonedenic milieu of the twentieth century, as Eco himself has argued (*A Theory* 125–128), trusting the Word of God is divorced from the reality of what is left—a semiotic limbo.

9.3 Naming a Palimpsest of Abductions: Intertextuality and the Detective's Labyrinth

The Name of the Rose casts serious doubts upon the real-world implications and practical utility of such a theologically overdetermined metaphysics that would govern the making of meaning from the perception of phenomena in external reality as conveyed through the sign system of language. And it does so, as I previously stated, by essentially presenting an educative vision of some basic semiotic principles that infuse the textual form of a popular fictional genre—the detective story. As the novel fuses current semiotic concerns with medieval ones “not only to identify in the past the causes of what came later, but also [to] trace the process through which those causes began slowly to produce their effects” (Eco, *Postscript* 76), it is a conscious attempt to comment upon an important period in the history of semiotics and to gauge its effects through a meta-historical recreation of the Middle Ages as an autobiographical novel:

What the characters do serves to make history, what happened, more comprehensible. Events and characters are made up, yet they tell us things about the Italy of that period that history books have never told us so clearly.

In this sense, certainly, I wanted to write a historical novel, and not because Ubertino or Michael had really existed and had said more or less what they say, but because everything the fictitious characters like William say *ought* to have been said in that period.

I do not know how faithful I remained to this purpose. I do not believe I was neglecting it when I disguised quotations from later authors (such as Wittgenstein), passing them off as quotations from the period. In those instances I knew very well that it was not my medieval men who were being modern; if anything it was the moderns who were thinking mediievally....

If a character of mine, comparing two medieval ideas, produces a third, more modern idea, he is doing exactly what culture did; and if nobody has ever written what he says, someone, however confusedly, should surely have begun to think it (perhaps without saying it, blocked by countless fears and by shame). (Eco, *Postscript* 76)

The examples provided in the novel of philosophical arguments used by monastic scholars of the period concerning two fundamental categories of semiotic thought in the Middle Ages, etymology, and onomastics, illustrate the conflicting logic of medieval and “modern” viewpoints. To explicate and to account for the conceptual development of language, Adso explores the ancient question of whether the names of things originated in nature or were the result of convention by noting that the lamb—*agnus* in Latin—received its name because it recognizes its mother at birth. Possessing a metaphysical sense of realism, representative of a Thomistic attitude, he goes on to infer from this brief etymological meditation the existence of a strict rule of order upon the world symbolizing, in the interrelatedness of its structures, “the greatness and stability of Creation” (Eco 1983, p. 286). On the other hand, in his address to the Benedictines in the assembly at the debate on the poverty of Christ, William uses an Occamistic argument to destabilize the implied etymological correspondence between being and naming that upholds Adso’s logic of the propriety of names. By referring to the arbitrariness of judgment in the act of naming, he shows how the right of identifying being was given to Adam as a responsibility granted

from God “So that ‘nomen’ comes from ‘nomos’, that is to say ‘law’, since nomina are given by men ad placitum, in other words, by free and collective accord” (Eco 1983, p. 351). William’s reasoning is undoubtedly modern in viewpoint, but its argumentative features are indicative of an innovative, yet quite reactionary, *nominalist* approach to the theological debates concerning the truth of meaning and language conceived in the Middle Ages in terms of universals. Contained in William’s summary of the main premise characterizing the theory of nominalism, as posited by the Franciscan William of Occam, is the suggestion that words do not refer to objective existences outside of perception. Words are consequently nothing more than verbal utterances through which the intellect can work from the experience of knowing the particulars of an object in the realm of the external world to a conception of it in the concrete form of a universal. This is a complete reversal of the arguments presented by the Benedictine saint, Thomas Aquinas, who quite emphatically stated in the *Summa Theologica* that the intellect, being immaterial, could not have any direct cognition of individuals but only of universals. As a result of the powerful influence of the antinomialist theories of Aquinas upon the period, the issue was usually decided in favor of this latter point of view instead of the former, as discussed above.

The influences of nominalism upon the epistemological beliefs of William of Baskerville are clearly established through the facts relating to the background history of the character: He is an English Franciscan who proudly acknowledges having studied at Cambridge with William of Occam. Allusions are also made to the Franciscans involvement with Roger Bacon, a proto-scientist whose empiricism is reflected in the monk’s penchant for the use of mechanical apparatuses to ease the difficulties of life (i.e., sextant, eyeglasses, clock, etc.). The fact that they have common first names reveals some level of intellectual affinity shared between the fictional character and the actual historical figure while promoting this “metaleptic transference” of the sense of properties depicting identity to bring forward these functions as the outcome of an extratextual reference tying reality with invention to establish the credibility of contrived textual sources. At least this is what Eco readily admits his intention to be in creating the character of William:

If I had to write a medieval story, I ought to have set it in the twelfth or thirteenth century, because I knew them better than the fourteenth. But I needed an investigator, English if possible (intertextual quotation), with a great gift of observation and a special sensitivity in interpreting evidence. These qualities could be found only among the Franciscans, and only after Roger Bacon; furthermore, we find a developed theory of signs only with the Occamites. Or rather, it also existed before, but either the interpretation of signs then was of a symbolic nature or else it tended to read ideas and notions of signs. It is only between Bacon and Occam that signs are used to acquire knowledge of individuals....More reading ensued, with the discovery that a fourteenth-century Franciscan, even an Englishman, could not ignore the debate about poverty, especially if he was a friend, follower, or acquaintance of Occam. (I might add that initially the investigator was to have been Occam himself, but I gave up that idea, because I do not find the Venerable Inceptor very attractive as a human being). (*Postscript* 26–27)

As a failed inquisitor, the astute Baskerville has attempted to reconcile the contradictions of an onto-theological argument for the existence of an “incontrovertible truth” with the breadth of his own secularized knowledge derived mainly from the

teaching(s) of Occam, the ancient books of pagan philosophers such as Aristotle, and the innovative systems of techno-scientific investigation inspired by Roger Bacon. It is in this sense that William has always already held the vocation of detective or one who reads the signs of the world in an attempt to glean “universal laws” or “general truths” from experiencing the particulars of objects or event sequences as they come to be revealed to him. William is a true Franciscan Occamite in this respect.

Beyond the historical information the novel contains through extratextual references, the main sources of intertextual reference in *The Name of the Rose* take the form of allusions to some of the more well-known Sherlock Holmes mysteries of Sir Arthur Conan Doyle, the incorporation of features characteristic of the celebrated labyrinth tales of Jorge Luis Borges (in which the detectives are defeated because of solipsistic reasoning), and the use of a standard repertoire of common elements of the “whodunnit” or the “hard-boiled” modes of detection stories. For example, thinly disguised references to *The Hound of the Baskervilles* are surely evident in the national origins of the name given the detective protagonist by Eco. And this codic ploy confirms that there are quite obvious intertextual associations between William and Conan Doyle’s famous detective as Eco’s self-conscious act of naming suggests (others are: he uses herbs to induce trances, he is English, he uses spectacles to “detect,” and he relies upon science to aid him in pursuing the solution to a mystery; also, the description of William as thin with a narrow nose, penetrating eyes, and a long face is reminiscent of the look of Sherlock Holmes detailed by Conan Doyle). That their methods are strikingly similar is punctuated by the structure of the Brunellus episode during which William performs Holmes-like sleuthing or what Eco defines in semiotic terms as *abduction* (*Theory* 131–133). The episode exemplifies a method of “reasoned hypothesizing” that differentiates abduction from either induction or deduction:

“The horse came this way and took the path to the right....”

“When did you see him?” the cellarer asked.

“We haven’t seen him at all, have we, Adso?” William said, returning toward me with an amused look. “But...it is obvious you are hunting for Brunellus, the abbot’s favorite horse, fifteen hands, the fastest in your stables, with a dark coat, a full tail, small round hoofs, but a very steady gait; small head, sharp ears, big eyes”. (Eco 1983, p. 23)

From the set of signs presented to him in the form of clues to a mystery (i.e., the spacing of the hoofs, the height at which the branches are disturbed, etc.), William is able to guess the direction of the horse by the derivation of a set of possible hypotheses that are generated and then applied to the situation in order to discover the correct one. Above all, there is surely an element of risk to the process because of the sheer speculation involved in ordering the signs to approximate the actual event, but William also applies a psychological dimension to the unfolding pragmatics of the situation. He effectively establishes the physical features, and also the name, of the horse by using a method similar to Holmes’ feat of “reading” Watson’s thoughts as performed in “The Adventure of the Cardboard Box.” Through the subtleties of this way of a semiotic detection of occurrential possibilities, William analyzes the likely patterns of thinking constructing the regularized cognitive processes of the

monks and works quickly toward the surprising conclusions expressed in the previously cited passage. More than likely, as William knows, the monks will not attempt to think originally in describing the horse, but will refer to the authority of church doctrine for instructions regarding the acceptable objectivity of the perception of the image by conceiving its *interpretant* in the normative formulization of a stereotype, that is, the recognized standard of “Brunellus.” To be considered “beautiful,” as William duly notes, the horse must possess the features (also the particular name) attributed to the animal by the church and there is “no doubt the monks firmly believe he [the horse] does” (Eco 1983, p. 24), display those unique features to be considered “beautiful.” The model for the episode is taken from Voltaire’s *Zadig*, a story Eco (*Sign* 207–215) analyzes elsewhere to give a semiotic example of detection techniques used by the sleuth to read clues containing instances of undercoded abduction (or outright hypothesizing) and overcoded abduction (or “possible” explanations). William actually tells the monks what they are searching for and how to find it before they ask him any questions about the horse, thereby performing a startling feat of meta-abduction for which there can be no immediate verification of facts, but a facade of conviction is maintained to assure his credibility as detective. The curious solution that motivates the scene is very much like the situation of Holmes’ first encounter with a client in “The Adventure of the Norwood Builder”: “I assure you that, beyond the obvious facts that you are a bachelor, a solicitor, a Freemason, and an asthmatic, I know nothing whatsoever about you” (Conan Doyle 1986, p. 497). William’s explanation to Adso, of the type of ratiocination involved in this method of hypothesis, serves to concretize the firm nominalist foundations of his personal philosophy of the semiosis of detection:

So I found myself halfway between the perception of the concept “horse” and the knowledge of an individual horse. And in any case, what I knew of the universal horse had been given me by those traces, which were singular. I could say I was caught at that moment between the singularity of the traces and my ignorance, which assumed the quite diaphanous form of a universal idea.... So an hour ago I could expect all horses, but not because of the vastness of my intellect, but because of the paucity of my deduction. My intellect’s hunger was sated only when I saw a single horse that the monks were leading to halter. Only then did I truly know that my previous reasoning had brought me close to the truth. And so the ideas, which I was using earlier to imagine a horse I had not yet seen, were pure signs, as the hoofprint in the snow were the signs of the idea of “horse”; and signs and the sign of signs are used only when we are lacking things. (Eco 1983, p. 28)

In the telling of the experience, William undercuts the epistemological basis for what has often been termed a “referential fallacy” in the apperception of signs by effectively showing that there can be no analogous, motivational, or relational ties between signifier and signified governing the hermeneutical mode of this type of conjecturality. Otherwise, the one-to-one correlation of signifier–signified/sign-referent would take the closed form of a fixed dyad, instead of the triadic structure of cognition implied in William’s explanation of thinking, and it would produce the prerequisite for a strictly iconic sense of image as restored through the invariability of perceptual schemata to negate any eidetic deviation in the translation of the mental interpretant (iconism being a theoretical anomaly Eco has effectively argued against [*Theory* 190–216]). William’s description of the movement from

the intensional act(s) involved in decoding external reality to the extensional act(s) facilitating its mental representation and the subsequent interpretation of the content of such expressions inspired thereof, suggests a fluidity of formal movements within signification where the “idea is a sign of things, and the image is sign of the idea, sign of a sign” (Eco 1983, p. 317). Unsurprisingly, this view is compatible with Eco’s general definition of the sign as “*everything* that, on the grounds of a previously established social convention can be taken as *something standing for something else*” (16); its operative dimension more appropriately spoken of in terms of a *sign function*, or the culturally determined meeting place for different forms of signification mediating between content, on one hand, and expression, on the other (pp. 48–58).

The discovery of things in their individual truth may be theoretically possible for William, the semiotic scholar of the bible (because this is for him one of the logical conclusions of Occamist thought). And what brother William the detective seeks when investigating the clues to the murders is the missing piece of the solution to the mystery that will resolve the complexity of the situation by giving it meaning through some definitive form of closure so as to enable the configuration of an underlying order among the signs presented to him. Ironically, the final truth of what William perceives in knowing “how to read the great book of nature” (Eco 1983, p. 20)—to highlight Adso’s Thomistic description of his master’s proto-semiotic expertise—is more characteristic of a twisted path of approximations leading slowly toward a supremely disheartening epiphany for the English Franciscan. It becomes evident to him that the “stuff” of external reality is essentially chaotic rather than being an “open book” upon which one can superimpose a penultimate structure of meaning to order the world in terms of the stable laws of a transcendental metaphysics or “positive theology.”

In the novel, the image of the labyrinth comes to symbolize William’s futility of consistently attempting to read the signs of the “text” of the world as an open book. Given that there is no “right” way out of a labyrinth, the monastery’s library is the metaphorical embodiment of the futility of the theologian detective’s quest for the truth of meaning through the interpretation of signs. The sublime serendipity of the inner construction of this immense structure, complete with secret pathways, cryptic symbols and rooms hidden within rooms containing rare manuscripts, is a mecca of potential truths to which only a selected few have the privilege of free access. It is a holy place where the possibility for virtually limitless conjecture exists, in, of, and for itself, as the main reason behind the detective’s intellectual failures. Through the twists and turns of the plot, William and Adso attempt to utilize the winding structure and coded markings of the library contents to find the key that will lead them to the murderer. A mode of conjecture exhibiting an infinite recursivity of possibilities for the generation of signs from signs and leading to no ultimate derivation of a “single truth” is the theory of infinite semiosis, referred to by Eco as Model Q (*Theory* 125–128). The jist of its labyrinthine workings are represented metaphorically by the symbol of the rhizome. Eco relates this image to the detective story in *The Name of the Rose*:

The labyrinth of my library is still a Mannerist labyrinth but the world in which William realizes (by the end of the novel) he is living in already has a rhizome structure. That is it can be structured but never definitively. (*Postscript* 57–58)

William's confidence that he can solve the mystery and expose the murderer in the end by using a combination of pure hypothesizing, trial and error, and the practice of tracing of leads to their logical conclusions—much like the method of solving a Mannerist maze within which one is, more or less, obliged to move in a nonlinear fashion through a series of dead ends toward a single exit—is proven to be false.

A transparent intertextual reference to the fact that Eco borrows extensively from Borges' works, the labyrinth is a multidimensional image that works upon many levels as a *mise en abyme* to articulate and to concretize the text's thematic content through the structuring of its expression of conjecturality. In one sense, *The Name of the Rose* itself is a labyrinth of intertextualized associations conjuring up images of other books reflected in it as well as unrestricting the possibilities for deriving meaning from it like the mysterious oriental text of the narrator's ancestor in "The Garden of Forking Paths." The labyrinth of the library (reminiscent of "The Library of Babel") and the compromised detective figure (recalling the fate of the protagonist of the "Death and the Compass," among other Borges stories) clearly establish the fact that fictional world that Eco constructs in the novel is more akin to those of Robbe-Grillet, Auster, Hjortsberg, or Kafka than to those of Conan Doyle, Christie, or Chandler because it is a "possible world" where the strict rules of causality are temporally suspended or spatially deferred for the logic of contingency (a theme which is reechoed in *Foucault's Pendulum*). William, like Harry Angel or the detective Lönnrot, is trapped in the labyrinth of his own conjectures (the certainty of which are dubious) because an infinite number of possible routes can exist beyond the obvious ones that may lead to the truth; when acted upon they lead only to an eventual condition of purgatory or existential damnation in the form of a symbolic or real cipher. Yet it is the villain's intelligent use of the detective's own thought processes that trap him in succumbing to the temptation of a mystery in the form of a gigantic acrostic. This sinister consequence of the detective story plot is a well-known Borgesian conceit. In effect, it characterizes the postmodernization of the traditional "whodunnit" moving the genre from the realm of "the real" or the plausible into the realm of "the metaphysical" or the unthinkable, but it is a plot device that can be reversed also, as Eco very deftly does in *Foucault's Pendulum*.

9.4 Excursus on *Foucault's Pendulum*: Conspiring to the Structure of Conjecture

If the labyrinth, as Eco confides in the *Postscript to The Name of the Rose*, is an "abstract model of conjecturality" (57), then the modes of conjecture practiced can also become a labyrinth inside of which one voluntarily traps the self. For example, the three protagonists of *Foucault's Pendulum* are solely responsible for the means of their own undoing, arguably more so than the extent to which William is account-

able for his great humiliation, because in their actions there is an unethical intent to willfully impose an arbitrary structure upon the events of world history. Their particular brand of “reasoned explanation” or meaning-making displays a self-centered attitude of egotistical insincerity; there is nothing to their method but a gratuitous motivation for the exacting of such hermeneutical violence upon the structures of human existence. There is no ethical code of purpose for flaunting the lack of metaphysical determinants of meaning within this organization of a new world structure that would inspire some semblance of faith in the order itself. Diotallevi, an avid student of the Torah, understands the significance of their transgressions in the most basic of terms—those of the self as engendered and thus defined through the total composition of the physical structure of the body. Like the arguments of Adso (or even Jorge), he explains to Belbo the theological basis for this personal revelation regarding the ontology of the truth of meaning:

We’ve sinned against the Word, against that which created and sustains the world. Now you are punished for it as I am punished for it. There’s no difference between you and me.... Is there writing that founds the world and is not the Book?...don’t they say that a man who plays with words and makes anagrams and violates the language has ugliness in his soul and hates his father?.... If you alter the Book, you alter the world; if you alter the world, you alter the body. This is what we didn’t understand.... There must be a right meaning and a wrong meaning; otherwise you die...without faith, blindly. (Eco 1989, pp. 466–467)

Diotallevi passionately condemns the bleak vision of this playfully satirical mode of conjecture and postmodern distance that characterizes how immoral transformations of the Book of Knowledge into a radically disordered world history were achieved to placate their egos. In their misguided use of what may be ironically be called a “de(con)structionist metaphysic,” there is no possibility for acknowledging any self-determined intent to facilitate an ethical opening toward the other via the structuring of the human universe: no reasons exist to hold up the truth of knowledge behind the curtain of pointless conjecture. And if all is relative, then there can be no faith in the order from which meaning is derived because there is no legitimating theology, used here in the widest of senses, founding its inception.

As Belbo, Diotallevi, and Casaubon work through set after set of virtually indecipherable cryptic anagrams, the remarkable degree of occultist and esoteric sophistication they have acquired through the process of editing the manuscripts of their “diabolicals” is revealed. There are no premises however to guide the course of their actions, apart from pursuing their own overweening intellectual or egotistical desires. The patterns of “The Plan” (as Belbo, Diotallevi, and Casaubon mockingly dub it) are ad hoc recreations of world history presented in the form of an invertly structured mythology (hence the intertextual reference Eco makes to George Eliot’s *Middlemarch* in Casaubon’s name) that is unstable and can be open to any reinterpretation depending upon what new item is added to the endless sources of information generated by the characters in the novel. The mode of conjecture in the case of this novel is centrifugal, or rhizome-like, spinning out the possibilities for the creation of further conjectures to tenuously related topics, instead of being centripetal, or mannerist as in *The Name of the Rose*, and therefore possessing some final point of ending. The method used to derive explanations from the complex

set of relations between the series of historical events in “The Plan” is a semiotic strategy termed creative abduction in which a hypothesis is posed that is suitable for creating connections among “items”; however, it is so tenuous in nature (and one of a great many probable hypotheses) that any correlation between the invention and the reality seems almost coincidental (Eco, *Theory* 131–133). Casaubon likens the process to cross-referencing:

I kept files on everything. I didn't think to use a computer (they were coming on the market just then; Belbo was to be a pioneer). Instead I had cross-referenced index cards. Nebulae, Laplace; Laplace, Kant; Kant, Königsberg, the seven bridges of Königsberg, theorems of typology.... It was a little like that game where you have to go from sausage to Plato in five steps, by association of ideas. Let's see: sausage, pig bristle, paintbrush, Mannerism, Idea, Plato. Easy. Even the sloppiest manuscript would bring twenty new cards for my hoard. I had a strict rule, which I think secret services follow, too: No piece of information is superior to any other. Power lies in having them all on file and then finding the connections. There are always connections; you have only to want to find them. (Eco 1989, p. 190)

The ethical errors of this sophisticated guessing game are revealed to Casaubon's in the way his girlfriend reduces the numerological foundations upon which the code of “The Plan” is supposedly based, to the hilariously bathetic status of a shopping list. This is done by providing a simple, but self-supporting, counterargument to dispel Casaubon's outrageous hypotheses by mimicking the codic logic of his method.

For Eco the theorist of signs, the perspectives of both William and Casaubon need to be somewhat similar and even though the detective story which is the plot of *The Name of the Rose* is transformed to a (mock-)conspiracy tale in *Foucault's Pendulum* the subjects or themes have not changed very substantially in their intensely semiotic focus. The theme of misreading the book of nature is also at the heart of the metaphysical conquests of the (syn)protagonists (as well as those of the “diabolicals”) is woven around the threads of the two detective stories: One is real in the ethical severity of its effects (What happened to Belbo and why?); the other is the product of flights of fanciful delusion (To where did the Templar Knights disappear and why?). Like William of Baskerville, Casaubon (a twentieth-century medieval scholar) and his associates are skilled in the methods of “semiotic inquisition” to execute the interpretation of signs and codes, yet they too err in arbitrarily imposing an order upon the world, modifying it without concern for others, so as to read it openly. When Casaubon describes his vocation, though, he sees his purpose or role unlike William does and parodies the classic stereotype of the “hard-boiled” detective found in Chandler's characterization of Phillip Marlowe to romanticize the notion of avant-gardish freedom to be had in the secular existence of the “hard-living” sleuth:

A sudden illumination: I had a trade after all. I would set up a cultural investigation agency, be a kind of private eye of learning. Instead of sticking my nose into all-night cathouses, I would skulk around bookshops, libraries, corridors of university departments. Then I'd sit in my office, my feet propped on the desk, drinking from a Dixie cup, the whiskey I'd brought up from the corner store in a paper bag. (Eco 1989, pp. 119–120)

In a sense, the motif pushes the boundaries of the traditional “hard-boiled” detective story to the limit by presenting a more all-inclusive or maximalist approach to the genre and this stock image suspends the singularity of Casaubon’s goal by juxtaposing it to the immediate gravity of the *semiotic inquisition* William must himself endure beyond the obvious need to find a quick solution to a mystery. The irony is that despite the breadth of knowledge expressed by Casaubon, Belbo, and Diotallevi (by implication Eco invites the reader to verify it), the type of expertise in detection they collectively possess bears no relation to a common reading of real-world events. It only provides the opportunity to report perspectives secondhand from the writings of others. Its source is myopically intertextual, or a user-friendly form of “bookish” competence, strictly research oriented in scope and in nature. And it is only by sheer coincidence that these characters become unwilling participants in the tangled web of a mock conspiracy, unwittingly created by them in an attempt to satirize the occultist mentalities of the so-called eccentric diabolicals. They are essentially mock detectives who are totally inept of any of the capacities that are prerequisite of the ability for *true detection* as is evident in their offhanded treatment of other characters during the adventures of the novel, like the Inspector. Paradoxically, the game in which Belbo, Diotallevi, and Casaubon imitate the logic of the occultists so well, effectively leads them into a deadly situation spawned of unforeseen consequences: “The Plan” is accepted as real by the some of the diabolicals and surprisingly brings about the bitter fruits of their own destruction as well as that of an innocent victim, Lorenza Pellagrini.

Although not having to look for a guarded book to prevent future evildoing, Casaubon faces the prospect of recreating the solution to the mystery of his friend’s disappearance from a set of Belbo’s chronicles found in Abalufia, a personal computer, the fragments of which, are then used in the writing of the manuscript to relate the fantastical tale to the reader of the text. The narrative structure of *Foucauld’s Pendulum* is more self-consciously voyeuristic than is usually the case for stories of detection such as *The Name of the Rose*. And it is the keen psychological solopsism of this perspective that provides the means for the inward focus the narrator sustains within the framework of an illicit search of confidential memoirs in order to discover the clues to a mystery. Also, as the narrative in *Foucauld’s Pendulum* is purely retrospective, the conclusions Casaubon proceed to can only be drawn “after the fact” of occurrences. The narrator must live and cope with the reality of the situation’s effects upon him when the events generated by “the plot” have subsided. Again, Eco exploits the archetype of the “confessional manuscript” to intimate its validity, but the verisimilitudinal presentation here is more in the style of artifice displayed in Vladimir Nabokov’s *Lolita* than like the “discovered manuscript” of Cervantes’ *Don Quixote*. For example, from an isolated cell where there is precious little time to reflect before the end of life (for it may be presumed that both Humbert or Casaubon are dead before the reading), the guilt-ridden narrator takes great pains to present, in great detail, the story leading to impending destruction. It reflects a “tongue-in-cheek” admission of sins to the other—a twisted sort of *bildungsroman*—inspired by a sense of guilt and a deep-felt desire for spiritual peace to ease the anxiety of the passing from innocence to experience, from life to

death. Yet, unlike Adso who does not wish to actively reflect upon the past, only to reiterate it for the benefit of the reader, Casaubon desperately needs to understand the *higher reasons* behind the deaths of his friends, that is, if he hopes to attempt to absolve himself of some of responsibility for them. The succinct description of the autobiographical pattern behind the hero's quest for self-discovery found in the commentary to another Nabakov story, *The Eye*, closely parallels the structure of both of Eco's novels,

The texture of the tale mimics that of detective fiction...the pursuit of an investigation which leads the protagonist through a hell of mirrors and ends in the merging of twin images.... The stress is not on the mystery but on the pattern. (qtd. in Merivale 1967, pp. 297–298)

The intertextual implications of the statement directly relates the doubled chiasmic configuration of these texts to those of Borges, taking into account that *Foucauld's Pendulum* does not adhere to the laws of this structuring as overtly as does *The Name of the Rose*. To illustrate, the proverbial "hell of mirrors" so reminiscent of Jorge's labyrinthine library can be seen as the symbolic equivalent of the fluid mutations "The Plan" undergoes at the whims of Casaubon, Belbo, and Diotallevi. In a semiotic sense, "The Plan" represents the propensity for an unlimited recoding of the constituent elements of an archive assembled from the available store of world knowledges. Its consequences show how the deployment of a self-aggrandizing talent for bookish artifice can be a dangerous enterprise, how the egoistic passion for irreverent invention can go very wrong. A construction of words, "The Plan" is presumed lifeless at the start of the escapade, given that it is hastily erected using the data of ancient manuscripts and other literary sources that are a part of "dead time." But its polysemous transformations defy this "categorical imperative" to benignly control history as it slowly engulfs its creators in the power of a seemingly self-willed transposition of effects from a conjectural world of endless possibility to the empirical world of external reality. "The Plan" is certainly hellish in the extremity of its effects upon them. And what is believed to be an epiphenomenal cause for the malleability of effective functions arising from conjecture encourages the semiotic confusion of the synprotagonists by causing each to react differently to the corporeal undecidability of the structure according to their own identity and concerns. To be sure, *Foucauld's Pendulum* celebrates the structural absurdity of "The Plan," through it Eco manages to offer hyperbolic explanations of cause that link virtually all the occult knowledge of world history around the scholarly esotericism of a single topic—the Templar Knights.

9.5 The Aesthetics of Textual Production: The Reader's Role of Detection

Beyond conflating the detective tradition with the theologico-epistemological issues consuming the Middle Ages, *The Name of the Rose* consistently addresses the nature of the interpretation of signs by a reader (here widely construed). As I

have already stated, the novel incorporates such semiotic problems in the textual presentation of both its expression and its content to locate a viable space for the novelization of theory within the postmodern context of critical discourses commenting upon the media of the writing of signs. Even a casual acquaintance with Eco's semiotic theories suggests how profitably they may be used to read the novel itself against the intertextual background of his more "scholarly works." This position is supported by the unqualified self-commentary textual instances that Eco permits himself in the *Postscript to The Name of the Rose*.

The author must not interpret. But he may tell you why and how he wrote his book. So-called texts of poetics are not always useful in understanding the work that inspired them, but they help us understand how to solve the technical problem which is the production of the work. (8)

Overall, the technical production of the aesthetic (or literary) text has been described by Eco as "a sort of summary and laboratory model of all the aspects of sign function" (*Theory* 261). The concept of the labyrinth (discussed previously) is Eco's favorite metaphorical equivalent for this open type of structural articulation of the "levels" of narrative discourse and the question of the production of the aesthetic text is paradigmatic of his semiotic investigations of reading-writing. He cannot but make the semiotic dilemma of the labyrinth the focal point for decoding the mystery of the novel and the theoretical basis for the textual discussion of sign theory: "Like a large labyrinthine garden, a work of art permits one to take many different routes, whose number is increased by the criss-cross of its paths" (*Theory* 275). Ambiguity of reference in the signification process of an aesthetic text encourages interpretative efforts, leading the reader to an awareness of the representational flexibility of language. Thus, an individual is inevitably driven to rethink the "whole possibilities" of the semantic contiguity of expressions by challenging the cognitive schemata of one's own ideational organization as constructed from the systems of meaning generation available for the communication of ideas. For example, through this explicit altering of an individual's shared mode of subjective perception to accommodate an acknowledgment that the world could be defined, structured, and known through the distinctive culturality of other models, the potential for socially motivated change is increased by opening up the rules of semiosis to a play of possibilities.

Eco's account of the operational structures of aesthetic texts is applicable to *The Name of the Rose* in the sense of creating the variation of mental alternatives attributive of "possible worlds." Indeed, this semiotic "openness" is clearly evident because the question of decoding implicit to the interpretative actions of a reader is a permanent narrative feature of the detective story's overriding "epistemology" as William and Adso set out to discover the meaningful keys to a coded message that would lead them through the labyrinth of texts to the lost book of Aristotle. The use of multiple plots secures the overall "formalizability" of the novel's ideological predispositions and becomes the textual vehicle for exploring the themes of ambiguity or ambivalence. Demarcating the lacunae of signification, fabulaic speculation arises from the necessity that hypothetic models must be constructed by the detective

attempting to resolve the mystery. Consequently, while the novel's theme is densely semiotic, it inevitably signifies ideas in the manner of an "aesthetic text" according to a structure that reiterates Eco's semiotic concerns. The underlying "system of mutual correlations" convened by this integral repetition of theme within the frame of structure is overtly realized as the "aesthetic ideolect" of the fictional text—the systematic rule by which its messages are consolidated through the interconnectedness of all (its) levels (Eco, *Theory* 271). Therefore, the modality of signification it imparts to the reader "continuously transforms its denotation into new connotations; none of its items stop at their first interpretant, contents are never received for their own sake but rather as the sign-vehicle for something else" (*Theory* 274). As the detective story in *The Name of the Rose* graduates to higher planes of abstraction, the intertextualized form of the novel gives way to a nonindicative world of signs that are left open to the multiple interpretations projected upon them by the reader. There is the lack of a fixed point upon which to firmly anchor the meaning of the "physical world" of events comprising the textual scenario of the detective's plight. For Eco, the seemingly arbitrary connection of signs is a special characteristic of the detective novel, a genre he describes as "the most metaphysical and philosophical" of all model plots (*Postscript* 55). Meaning is strictly beyond the *material realm* of the physical world of the text and totally in the *metaphysical realm* of the possible world of the reader's mind. It is within these dimensions that the novel Eco writes is an aesthetic text and is "open" in its attributive structure to a delimited semiosis as opposed to being "closed" to a liminal semiosis. Open texts set out to generate their reader(s) as part of the process of the text itself by discouraging the reductive readings characteristic of closed texts that aim at arousing "a precise response on the part of more or less empirical readers" (Eco 1979, p. 9).

The Role of the Reader is Eco's starting point for an explanation of how the construction of the reader in closed texts (Superman stories, traditional detective stories, and James Bond novels) draws upon this authorial tendency, but through which, the text is ironically left vulnerable to the possibility for aberrant readings, those undermining its original intentions (usually moral in nature). That a variety of readings is required by an open text is itself a sign of a self-conscious tendency toward an openness of structure where each rereading is reechoed by the successive production of other rereadings. The result of this openness of textual form—the semiotic field of discourse within which the writer and the reader operate—is the ironic knowledge that "You cannot use the text as you want, but only as the text wants you to read it" (Eco 1979, p. 9). This tendency is exemplified by the contrast between the type of reader constructed through the accepted narrative of "popularized" fiction and the initiation of a new brand of reader required by the works of more innovative writers of open texts such as Joyce, Kafka, or Borges. Eco explains:

When a work is finished, a dialogue is established between the text and its readers (the author is excluded). While a work is in progress, the dialogue is double: there is a dialogue between the text and all other previously written texts (books are made only from other books and around other books), and there is a dialogue between the author and his model reader. (*Postscript* 41)

To facilitate this construction of the model reader through the text, the act of semiotic en/decoding is thematized in the structure of the novel in the form of what can be succinctly termed a “treasury of intertextuality” and, by implication, a “treasury of extratextuality.” This is another question of detection in quite another labyrinth of detection fiction. Its metaphysical ruses construct a puzzle of textuality that goes far beyond the enjoyment of deciphering the “whodunnit” comprising the plot. Conjecture gulls the empirical reader into the egological process of undergoing a potential consecration of *metaphorical* identities, away from the spectatorial role of a “simple observer” to an active and wholeheartedly adopted desire to live the imaginative role of textual detective. The effort s/he expends to penetrate the labyrinth of the novel’s structure by enduring the chiasmic turns of its twisted signs, the heterogeneity of its mixed codes, and the genre parodies of its megalomaniacal clashes or struggles, is the necessary price paid for a momentary glimmer of the shape of its ever-shifting universe.

So, the narrative techniques of the text itself provide the ideational framework for actualizing the metafictional elements that lead to the construction of a model reader, the schema of which by being thematized through the creation of a possible world based upon the reader’s intertextual or extratextual references, allows the objects, events, and characters presented in it to be accepted as “real.” Eco is undoubtedly aware that the reader will use the intricacy of rich detail furnished through what is related in the discursive features of the narrative structure of the text to *scaffold* a mental construct of a possible world of the novel (*Postscript* 23–29). In essence, the novel is an attempt to create within the *psyche* of the reader the seeming particularity of a conception of “the Middle Ages” depicted as a *cosmological reality*. Using intertextual or extratextual allusions manifest in the lexical signs and codes of the text that refer to elements possessing sources of meaning in the external world, their existence is by extension psychologically confirmed. Yet it is true that meaning for the reader is made according to a definite ideological context of subjective experience. In order to accomplish this aim to create a plausible possible world through the linear manifestation of lexical signs in the accumulative form of narrative discourse, there must be a relation of immediate contiguity established between the “empirical world” of lived experience and the “fictional world” of represented reality. The discursive structure(s) of the text from which semantic disclosures are made by the reader bring into play an encyclopaedia of intertextualized and “real-world” associations hinted at earlier. Lexical referencing stimulates cues for mental responses, thereby authenticating the vision of words as signs with probable meaning connections, albeit nothing but a mimetology of reality itself. In presenting the reader with lexical signs relating to these “common frames” of reference as Eco has called them, the author provides the semiotic means for facilitating such a contiguous association between these signs and their referents that could eventually lead to the psychological creation and virtual acceptance of an “illusory reality.” For example, the narrator is actually divided between two distinct personages: Adso the younger, who (with his mentor William) lives through the spacing of events described to provide the impetus for the dialogically structured commentary upon the action of the novel, and Adso the elder, who (after the death of William) is the

omnipresent as well as the semi-omniscient narrator, a device allowing for intrusion upon the extemporaneity of the discourse to provide a modicum of psychological insight for the actions of Adso the younger (and William also). In itself, the twofold perspective of the narrative *döppelgänger* is a standard device for structuring point of view in the detective genre, where the reliable narrator of the story—at times insightful but at times naïve—is also an active participant in a sequence of happenings that had occurred at some point in the past. Conan Doyle, for example, utilizes Dr. Watson to expedite this narrative function by allowing the “elder” Dr. Watson to comment upon his own adventures with Sherlock Holmes and to explain the clever solutions to perplexing mysteries. In Yu Tsun’s descriptions of how and why he killed the sinologist Stephen Albert, Borges allows the character to reflect upon the moral significance of the dilemma, the tension ultimately creating suspense about the resolution of a seemingly unrelated web of generated incidents that eventually spell the downfall of the protagonist. Without doubt, *The Name of the Rose*, as I have outlined above, likewise aspires to the narrative engendering of an illusion of reality in the reader through the apperception of its signs as “truthful.” No matter how chaotic the world of the detective might seem to get, Eco’s text requires the classical traits of verisimilitude in order to achieve the aforementioned aesthetic goals of an open text. Eco’s borrowing of this device of textual artifice allows for a metafictional rendering of the novel form according to the tenets of a methodological structuralism that he has always opted to follow elsewhere as a means for conducting semiotic studies of the signs and codes at work within text. Focusing the case of literary “mannerism” upon the method of textual artifice as aesthetic production, Merivale traces the manifestation of this type of metafictional narrative style to what can be described as the “book-conscious-of-its-bookness” (295). The creative production of this textual artifice is one of a self-conscious awareness of the “dialectical literary progression from one kind of novelistic mimesis to another” (Hutcheon 1980, pp. 4–5). The *deixetic*, or thematic, function of textual form, in conjunction with the mimetic functioning of the linguistic representation of the novel, achieves the aesthetic effect(s) desired for the suspension of disbelief and the later creation of a possible world. It being unsigned, the original words of Adso’s manuscript are said to be imaginatively reconstructed from memory and the source of the intertext is legitimized by the empirical author’s text—the novel itself presumably—that is a narrative on the “fourth level of encasement” (Eco, *Postscript* 20). This is verified by what we know about the manuscript itself.

9.6 Mirroring Dubious Sources of Origin: Playing Chess with the Reader

The unnamed “author” of the Introduction to the book is handed a manuscript written by the Abbé Vallet for which a complete and intricate list of Latinate analecta consisting of bibliographical references are provided. The reader is invited to verify the scholarship. The manuscript itself was (for now it is lost forever to an ex-lover

of the “author”) the eighteenth-century rendering of a fourteenth-century text written by a Benedictine monk. There is no possible means of validating its existence as such—and this “fact” is duly noted with reference to several medievalists and experts of other ilk—beyond the intertextual references found by the “author” in an old handbook by Milo Temesvar entitled *On the use of Mirrors in the Game of Chess* that was discovered ever so accidentally upon the dusty shelves of an antiquarian bookshop in Buenos Aires. Still finding no scholarly corroboration for the historical existence of the original manuscript, the author decided to publish Adso of Melk’s memoirs as a twentieth-century “Italian version of an obscure, neo-Gothic French version of a seventeenth century Latin edition of a work written in Latin by a German monk toward the end of the fourteenth century” (Eco 1983, p. 4). The Italian version has been translated into English, of which, the translation of the novel I am using to quote from, is itself the tangible proof to the existence of an “original” manuscript.

It is in this unabashed spirit of Borgesian intertextual reverie that *The Name of the Rose* verily progresses toward its “mock legitimization.” It does not matter that Milo Temesvar is an invented pseudonym for Eco’s literary stunts with overzealous publishers or that the “manuscript,” despite the complex literary scholarship involved to corroborate its supposed authenticity, is actually a ruse to exculpate the novel’s historical genealogy by setting the stage for its acceptance with either the “ingenious” or the “credulous” reader. The fact that the metafictional process of literary production in generating the work is self-conscious and self-aware, fixes the parameters of its own textual inquiry within a specific theoretical frame of reference, scholarly or otherwise (Hutcheon 1980, p. 6). How the signs and codes are embodied within the textual form of the novel “establishes” very nicely the means for the hermeneutical inquiry to follow. For Eco, the *frame of reference* is definitively semiotic, that is, a question of codification, of meaning production, of decoding the limits of signs. This complex and sordid tale in itself validates the authenticity of the manuscript and by implication its contents (narrative, thematic, ideological, etc.), because the seemingly arbitrary connections between the events related to the reader prove its cause for legitimacy even though they are, in effect, too absurd or haphazard coincidences in themselves to be “real.”

The metafictional technique Eco utilizes in the writing of the “Introduction” is a form of parody reminiscent of Cervantes’ *Don Quixote*, in which, the empirical author (himself) resorting to the alibi of a “discovered” manuscript—that being a translation of a manuscript written centuries earlier—explicitly admits to imitating the original text as a book about another book. In creating a tongue-in-cheek prelude to the novel, Eco is reaffirming the sources of influence upon its production and its content by providing clear intertextual references to works of other authors who have unwittingly contributed to the *The Name of the Rose*. It is the reader’s responsibility to realize the associations suggested by the text. And Eco has relished the interpretative frenzy the novel has sparked due to the interweaving of allusions that proliferate the textual tissue of this detective story. For example, the reference to the mirror and the chess game in the title of the book found at the antiquarian bookstore in the Argentinian capital—incidentally the city of Borges’ origin—

echoes the rather haphazard discovery of “Tlön, Uqbar, Orbis Tertius” attributed by the narrator of the story “to the conjunction of a mirror and an encyclopaedia” resulting in a “labyrinth built to be deciphered by men...with the rigour of chess players” (Borges, Jorge Luis. 1956, pp. 13–35). The image of the intertextual labyrinth in *The Name of the Rose* is “taken up” from Borges’ tropology as the focus of the mystery of the plot and is the central metaphor around which the themes concerning detection, theology, and semiotics revolve. It is because of the lack of an authoritative text that the foundations of meaning for the reader are undercut or destabilized: making all acts of interpretation immediately relative to individual subjectivities and rendering the text a veritable palimpsest upon which the difference of the novel is newly rewritten with each successive rereading. This referential havoc is manifest in the detective story of Eco’s novel as the speculative desire of a metaphysical quest for “Truth.” Yet, as the world of the text does not contain syllogistic patterns of order upon which to understand the plot events, the result is a dissimulation of the occurrential coherence of the book to that of a textual labyrinth. It is a hermeneutic dilemma or interpretative predicament where the reader must trace and then retrace the receptive steps of textual production in order to decipher the potentialities for meaning-making embodied within the narrative itself. The chaos that is dramatized in the action through the intricacies of the plotting creates tensions or anxieties of understanding, eventually leading the reader to acts of sustained speculation, thus generating an array of hypothetical possibilities for solving the mystery in an attempt to bring about the cessation of a disturbing sense of disorder. The detective genre relies upon this projected ability of the reader to draw together hypotheses to facilitate the spirit of speculation necessary to create suspense in the outcome (e.g., How are the monks killed?, Who is the mysterious killer?, What is the title of the mysterious book?, How is it connected to the deaths of the monks?, etc.). In essence, the propulsion for the action in the plot is the search for the solution to the mystery for which the reader exists as reader. Eco explains this “reader-trick” more precisely,

What model reader did I want as I was writing? An accomplice, to be sure, one who would play my game. I wanted to become completely medieval and live in the Middle Ages as if it were my own period (and vice versa). But at the same time, with all my might, I wanted to create a type of reader who, once the initiation was past, would become my prey—or rather, the prey of the text—and would think he wanted what the text was offering him. A text is meant to be an experience of transformation for its reader. (*Postscript* 53)

The detective metaphysic in *The Name of the Rose* is used to facilitate the purposeful transformation of its reader into an individual capable of appreciating and grasping the conflicting ideological viewpoints expressed through its dialogical structure. To use the prodigious rhetoric of Eco’s semiotic vocabulary, the detective genre enables the author to structure the development of the action on the expressive plane of narrative discourse in terms of the intricacies of plot elements, while the aspects of semiotic theory that infuse the novel function on the content plane to furnish the thematic stuff from which a *fabula* (story) can be abstracted by the reader through a series of abductions (Eco 1979, pp. 1–43).

9.7 Postmodern Palimpsest of Mourning or a Labyrinthine Library of Tales

The Name of the Rose is consciously intertextual by design as I have discussed, at length, previously. To facilitate the *transformation* of its model reader and to encourage the building of speculative hypotheses necessary for the detective story to succeed, the bricolage of discourse, events, plots, ideas, etc. that Eco produces in the supposed transl(ite)ration of the meaning of the text through a number of cultures and languages creates an ironic sensibility to the novel. It is a distinctly post-modern mood of *defamiliarization*, or the writer playing with the genres available to the reader for the classification of a given text. For example, William does fail on an impressive scale like the detectives in Robbe-Grillet's (1964), Borges' "Death and the Compass" and Auster's (1985) *City of Glass*, none of whom realize the clues leading to the solution of the mystery are a result of mere contingency of reflective values rather than the logical ends of intentional acts. His failures are due to the obvious fact that he attempts to impose an externally ordered system of textually defined logic upon the real-world events in the abbey so as to find the murderer, but discovers too late that the signs of the Apocalypse of John—to which the murders relate only superficially and by coincidence—is not the key to apprehending the guilty monk. Through this creative form of abduction, trying to fit the events into a type of predetermined logic, very little detection is performed, despite William's intellectual tendencies toward "modern" semiotic methods. Those only prove him to be a curious anachronism spawned of this medieval world. It is ironic that William does not realize that coincidence can also lead to the meaningful interpretation of action and he resolutely imposes such a predetermined order upon a series of unrelated acts. His minor failures are many: he arrives too late to the scene to save victim after victim, he does not know the significance of the "strange" manuscript in Severinus' laboratory for previously concluded events, he fails to pursue Benno who took the manuscript, and he is defeated by the diabolical detective figure Bernard Gui (whom William allows to overturn "rational" and "humane" principles of action in the pursuit of truth by reducing the debate upon the question of the poverty of Christ to the gross spectacle of a mock trial as represented by the unjust ordeal of the inquisition). On a larger scale, William cannot prevent the loss of the second book of Aristotle's *Poetics* when Jorge de Burgos eats it—an apocalyptic thing for the old librarian to do of course—and he must helplessly watch the library of the abbey burn to the ground. Possible explanations for the mystery are exhausted in the novel's dialogic structure, but as William and Adso are submerged deeper and deeper into the subplots from which the thread of main action unfolds the connections between the events become blurred, chaotic, and arbitrary.

The blind librarian who guards the labyrinthine library is behind the chaos; and he defeats William's metaphysical quest for order through what ultimately are the semiotic disjunctions of a disordered world. The thinly veiled intertextual reference the name of the character conveys to the person of Jorge Luis Borges (proclaimed the "God of the labyrinth" due to his elaborate uses of the labyrinth image in fiction)

is appropriate because the Argentinean was in reality a blind librarian. But in *The Name of the Rose*, the significance of the allusions behind the character's name is more profound when discussed in conjunction with his duties for the abbey. The blind keeper of the library is the metaphorical keeper of the world's knowledge, trusted to recording the development of epistemology since antiquity as it is put down in writing. The arrangement of the sections in Burgos' labyrinth according to continental divisions, somewhat like Borges' labyrinth of books contained in "The Library of Babel," attests to this symbolic function of one who mediates between the babble of cultures for the sake of protecting the writing of tradition for others who would follow. It is a responsibility of caretaking abused by the monk librarian and his cohort, unwisely used without vision—blindly—to prevent the dissemination of ideas that would bring theologically sacrosanct ideals (e.g., the metaphysics of the Word) into question. The secularization of the basis of knowledge creation would surely undermine the material power of the enlightened church as shepherd responsible for guiding God's flock of innocent sheep. There is an inference that a great store-house of knowledge such as this library represents does not lead to any revelations of truth, although it does lead to an apocalypse of sorts at the end of the novel. This is proven by the scribes and illuminators who inhabit the library for the sole sake of a monastic scholasticism; they remain unenlightened to the wealth of its contents since they are forbidden to enter it at will. By adhering to what he refers to in his sermon as a "continuous and sublime recapitulation" (Eco 1983, p. 399) of knowledge through tradition, Jorge represents the ideological antithesis to William's experimental drive to discovering new ways to divine "truth" through the interpretation of signs. It is this chiasmic collapsing of identities of which Adso becomes aware at the climax of the novel. The two arch nemeses finally meet face-to-face in the room behind the mirror, but are more like inverted reflections or complementary dimensions of the same solipsistic character rather than unrelated opposites:

I realized with a shudder, that at this moment these two men arrayed in mortal conflict, were admiring each other, as if each had acted only to win the other's applause...each secretly aspiring to the other's approbation, each fearing and hating the other. (Eco 1983, p. 473)

Blind to the truth of his own soul and lost in detection, William reveals the extent of his narcissism when he paradoxically becomes part of the criminal's plan for atonement. The Tiresias figure of the blind seer is truly the diabolical reflection of the detective able to predict William's actions partly because of the theological doubts that he knows William possesses. It is a reversal of the detective story to the antidetective story of an intellectual "cat-and-mouse game" between two worthy adversaries—one involved in constructing a labyrinth to protect forbidden knowledge from escaping, while the other attempts to solve it by penetrating it in order to learn its secret teachings.

In the end, the detective is defeated by the perspicacity of his own conjectures. The harshness of the outcome proves to William that any speculation about causes beyond the most obvious when attempting to resolve outcomes toward a pattern or underlying order is intellectually stimulating but ultimately futile. What is also paradoxical is the main symbols in the novel representing universals of knowledge

and reasoned inquiry required for the attainment of truth—the library, the book(s), and the Word—eventually lead to a destruction sown from the seeds of an ignominious pride of self-indulgent speculation. The structure of associations and connections hypothesized by William are only the reflection of a reality that mirrors his own mind. In negative association with the ideas of Burgos, the quest for a “series of connections in small areas of the world’s affairs” (Eco 1983, p. 394) unexpectedly leads to his downfall as detective. It likewise represents the last gasp of theological faith left him before the enduring of a symbolic baptism of fire while trapped in the inferno of the burning labyrinth. When he emerges like the proverbial phoenix from the self-consuming flames that are ignited by the sparks of his own solipsism, he does so with books in hand, a clear indication of a secular prioritization of duties. The lack of logicity underlying the sequence of events at the abbey reaffirms for William that there are no objective truths beyond the presence of individual signs. Epistemological doubt is structurally and thematically connected to theological doubt in *The Name of the Rose* and the detective’s mourning for the absence of truth and the falseness of signs. The failure of the detective implies a failure of the metaphysical faith and the absence of universalizable truths applicable to the situation is a revelation questioning the order of God’s world. Like Lönnrot who, by ingeniously using a compass to form an equilateral triangle extending into the form of a cabalistic diamond or tetragrammaton, unwittingly falls into the trap of arbitrary clues set by his adversary Red Scarlach; William also realizes that some events in the given course of the world fall into place synchronically without possessing any causally motivated relation between them diachronically. At the beginning of *The Name of the Rose*, he is unable to conceive of the world as a labyrinth of unrelated connections, but only as a mannerist maze with a single point of exit, not as a rhizome displaying an unlimited series of generative possibilities for contemplation. William later rejects the antitheological thrust of this ideological position by suggesting that the signs of words (or books) and the signs in nature may be equivocally connected, if at all, to some further reality beyond human comprehension. He tells Adso, “In order for there to be a mirror of the world, it is necessary that the world have a form” (Eco 1983, p. 120).

9.8 And What of—Possible—Endings?

Ironically, in failing to arrive at a “right” conclusion despite vehement diatribes to Adso against acknowledging the primacy of universals at the cost of rejecting individuals, William has unknowingly reverted to what he has identified through numerous examples to be the monkish mentality prevalent in this era of the Middle Ages. This dominant perceptual trait reveals how conceptually inflexible he is or has become despite his many protestations to the contrary. William must therefore accept Jorge’s explanation that the occurrences at the abbey over a 7-day period are based upon the existence of some universal archetype and dependent upon the

concatenation of a chain of actions, a syntagma of events set in motion by unwilling or unknowing participants. Although the signs in the plot revealed to the detective in the form of clues represent in themselves a perception of reality, the idea that it is possible to construct un(equ)ivocal meaning by linking them together to extracting enduring universal truths from them is a self-deceiving and illusory premise. William says to Adso,

I have never doubted the truth of signs. They are the only things man has with which to orient himself in the world. What I did not understand was the relation among the signs. (Eco 1983, p. 492)

The tradition of the detective novel assumes a connectedness between the world of signs (signifiers) and the reality of objects (referents signified) or an incarnation of the world through the event of language as ontologically truthful to meaning. Otherwise, the process of detection would be futile and meaningless (as William implies) given that the detective would never be able to read the signs correctly in attempting a solution to a mystery—signs would be false signs. William fails in the role of the detective because he considered a *typology of signs* as if they were pure entities, whereas in fact they were relations. That the detective is doomed to failure through the method of detection he utilizes, casts doubt upon the validity of an ontotheological explanation for the origin of truth in the meaning of signs. The abyss of nihilism or semiotic groundlessness evident in the outcome of the plot questions whether any un(equ)ivocal universal(s) can be found in the subtext of the world. In short, *The Name of the Rose* thwarts the “heuristic corporeality or ‘fleshness’ built into the traditional English detective plot” (Eco, *Postscript* 27) because it is a “detective novel where precious little is discovered, and where the detective is beaten in the end” (23), left to mourn for his fate and for the truth beyond him.

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Peter Pericles Trifonas is a professor at the Ontario Institute for Studies in Education/University of Toronto. His areas of interest include ethics, philosophy of education, cultural studies, literacy, and technology. Among his books are the following: *Revolutionary Pedagogies: Cultural Politics, Instituting Education, and the Discourse of Theory*, *The Ethics of Writing: Derrida, Deconstruction, and Pedagogy*, *Ethics, Institutions and The Right to Philosophy* (with Jacques Derrida), *Roland Barthes and the Empire of Signs*, *Umberto Eco & Football*, *Pedagogies of Difference*, *Deconstructing the Machine* (with Jacques Derrida), *International Handbook of Semiotics*, *CounterTexts: Reading Culture*

Chapter 10

The Emergence of “Atomodoxy” in Cold War Rhetoric and Science Fiction Narratives: Fear, Threats, and the Duties of Citizenship in an Atomic Age

James Eric (Jay) Black

John Wayne played the Asian military leader Genghis Khan in the movie *The Conqueror* in 1956. Twenty years later, 91 members of the film’s cast and crew had developed cancer. At least 50 died of it, including Wayne and fellow stars Susan Hayward, and Agnes Moorehead, and director Dick Powell. Another actor, a Mexican film star, Pedro Armendariz, developed kidney cancer within 4 years of his time with Wayne in the desert. He survived until 1963 when he shot himself through the heart after hearing from his doctor that he had terminal lymphatic cancer. No one can say for sure what caused this cancer cluster, but many attribute it to radioactive fallout from 11 atom bombs tested in the Nevada desert near the location where the film was shot. One of the bombs was four times the size of the one dropped on Hiroshima.

Back in 1956, radioactivity was almost something to joke about. Wayne even posed near the set for RKO Radio Pictures publicity shots with his bare-chested sons and a Geiger counter. The episode contextualizes prevailing ideologies, but how do these ideologies come to be? At what point did the epiphany occur in which the happy American male playing with a Geiger counter was displaced with tremendous suffering from even touching the radioactive sand? These same ideologies simultaneously circulated in the narratives of popular culture, specifically science fiction, where narratives create and sustain particular constellations of nuclear knowledge. The episode surrounding John Wayne and the filming of the movie *The Conqueror* is important because it is a narrative that presents one perspective of the time. Here we have a moment with a national superhero taking a stroll with his children while enjoying something new in the atomic age. This narrative was displaced with another that grapples with fears and threats—evidence that the picture changed.

This mythic milieu is particularly interesting because the same logic that circulated at the time was reproduced with a cast of heroes and villains. The 1950s science fiction attempted to provide a moral framework for adults, but especially children and teenagers concerning the dual intimidation of communism and nuclear

J. E. (Jay) Black (✉)

Center for Collaborative Journalism, Mercer University, Macon, GA, USA
e-mail: black_je@mercer.edu

threats. Though no causality is implied, tracing these moral lessons allows us to find out how a particular subjectivity emerges. My claim is that narrative analysis can and should be used to analyze historic episodes from the 1950s, an era rife with political and social conflict.

Walter Fisher provides tools that can aid the critical historian by exploring what constitutes this meaning in his landmark work *Rationality and the Logic of Good Reason*. For Fisher, good reason must meet two criteria: fidelity and coherence. Reason is the means in which we decide to either believe or not to believe a narrative that is presented to us. We must decide what symbols and signs of the communicative process are reliable to express a social reality. The narrative paradigm does not deny reason and rationality; it reconstitutes them, making them amendable to all forms of human communication. Narratives are thus meaningful because they allow us to understand the actions of others. The narrative episodes, based on fact or fiction, are open to interpretation because of their argumentative goals.

When reading about nuclear and communist fears in the USA after World War II, a commonly used phrase is “fears, either real or imagined.” Most work concentrated on the perceived real fears. This chapter attempts to identify and illuminate the imagined companion narratives of a world in the nuclear age. These narratives were created out of a fear of what could be rather than a fear of what was, a fear of philosophy rather than historical fact, and became the companion to facts that ultimately became conspiratorial truisms. This chapter refers to these instantly recognizable Cold War metaphors, opinions, and narrative constructs as *atomodoxies*.

Fisher claims the most compelling persuasive stories are in mythic form. This substantive feature is related to narrative fidelity. Furthermore, Fisher’s “coherence” seeks for what is true to the way people and the world are in fact and value. Some stories are better in satisfying the criteria of the logic of good reason which is attentive to reason and value. Keeping these criteria in mind, I am going to analyze representative textual anecdotes that began circulating shortly after the advent of the atomic bomb including those evident in the science fiction movies *Them!* and *Invasion of the Body Snatchers*. How does a good citizen respond to monsters and communists? What is victory? These examples are more than just entertaining stories for the public. Atomodoxies supplemented and provided scaffolding for the prevailing Cold War ideology and cast the Cold War and communism into mythic realities.

10.1 Narrative Analysis

Events on the world stage began to develop at a dizzying rapidity after the Second World War. The Republican Party secured the presidency and both houses of the legislature with an emphasis on Cold War national security. Republicans cast Democrats as weak on national security by hyping the threat of domestic subversion and stressing the liberation of communist-controlled Europe and Asia. Republicans also capitalized repeatedly on widespread anxieties by charging the White House of colluding with communists during both the Roosevelt and Truman administrations and claiming that Democratic containment efforts had “lost” China and Czechoslo-

vakia. Hollywood cashed in on these fears by releasing science fiction films that seemed to parallel many of the same themes and metaphors. Ten out of 12 American films produced during this decade that dealt with visitors from another world depicted the presence of aliens in our society hell-bent on destroying the foundations of American life. Only *The Day the Earth Stood Still* and *The Cosmic Man* suggested that “others” might be benign or neutral.

To understand history requires an attitude of historical inclination. In order to understand a particular issue, the historian must be aware of the pressures and influences of other peoples’ thoughts and behaviors as well as their understanding of specific issues and developments. Ernest Wrage claims that it makes no difference if an academic seeks “explanations for an overt act of human behavior in the genesis and moral compulsion of an idea, or whether [academics] accept the view that men seek out ideas which promote their interests and justify their activities, the illuminating fact is that in either case the study of ideas provides an index to the history of man’s values and goals, his hopes and fears, his aspirations and negations, to what he considers expedient or inapplicable.” Wrage does not separate truth from fiction. Facts do not always propel facts. The study of ideas helps us to discover why certain people may have done certain acts.

Wrage employs the word “idea” to refer to widely accepted formulations of thought as the product and expression of social motivations that encourages other ideas, and then to others. Ideas are the product of their social environment from which they arise and not mere entities that enjoy independent existence that “serve as objects of contemplation by the self-avowed or occasional ascetic...exclusive devotion to monumental works is hopelessly inadequate as a way of discovering and assessing those ideas which find expression in the market place.” Ideas do not form in a vacuum but are the product of circumstances, time, and place.

Moral philosopher Alasdair MacIntyre observed, “Man is, in his actions and practice as well as in his fictions, essentially a story-telling animal.” “Enacted dramatic narrative” becomes the “basic and essential genre for the characterization of human actions.” The storyteller’s vantage point in time, values, and character positions the narrative to the audience, and the audience creates a “we” by identification. Fisher utilized this theory as a basis for his narrative paradigm—a synthesis of the argumentative, persuasive theme and the literary, aesthetic theme—after concluding that the traditional views of rationality did not serve nuclear controversies.

The narrative paradigm maintains that human communication must be viewed both as historical and as situational. Each narrative competes with other narratives “constituted by good reasons, as being rational when they satisfy the demands of narrative probability and narrative fidelity, and as inevitably moral inducements.” If human communication is to be considered rhetorical, it must take an argumentative form. Reason is to be attributed only to discourse “marked by clearly identifiable modes of inference and/or implication, and that the norms for evaluation of rhetorical communication must be rational standards taken essentially from informal or formal logic. The narrative paradigm does not deny reason and rationality; it reconstitutes them, making them amendable to all forms of human communication.”

Fisher notes that narrative paradigm is related to both Bormann’s concept of “fantasy themes” and Frenztz and Farnell’s language action paradigm. Bormann’s

fantasy is “the creative and imaginative interpretation of events that fulfill a psychological or rhetorical need. These concepts translate into dramatic stories, constructed out of fact and faith, which constitute a persuasive force as well as the fabric of social reality for those who compose them. Borman’s primary contribution is his suggestion that fantasy chaining transcends small-group experiences. If small groups shared identities through group fantasizing, so might larger groups such as organizations, social movements, and societies. It is important to note that these fantasies can be fictitious in nature, especially when they are created out of physiological or philosophical fears of nonhistorical circumstances.

Frentz and Farrell’s “encounters” are implicit matters of knowledge, aesthetic expectations, institutional constraints, and propriety rules that force a determined narrative structure within a given interpersonal environment. An “episode” is “a rule-conforming sequence of symbolic acts generated by two or more actors who are collectively oriented toward emergent goals.” Fisher claims this is basically the process by which one or more authors generate a short story or chapter by deciding plot, nature, characters, resolutions, and meaning, and then importing these stories to others. These episodes then can take on stoic resistance to alternative episodes created by others who may have alternative goals.

Fisher notes that the Bormann and Frentz and Ferrell constructs enrich what he calls the narrative paradigm, the structure of which is:

1. Humans are essentially storytellers.
2. The paradigmatic mode of human communication is “good reason” depending on the situation, genres, and media.
3. Good reason production and practice is governed by matters of history, biography, culture, and character as well as the forces of Frentz and Ferrell’s language action paradigm.
4. Rationality is determined by the nature of narrative beings and their ability to know if something rings true.
5. The world is a set of stories, which must be chosen among to live the good life in a process of continual recreation.

Reason is the means in which we choose to either believe or not to believe a narrative that is presented to us. We must decide what symbols and signs of the communicative process are reliable to express a social reality. Narratives are thus meaningful because they allow us to understand the actions of others. The narrative episodes, either based on fact or fiction, are open to interpretation because of their argumentative goals.

10.2 The Atomodoxy

Fisher’s narrative analysis of the logic of good reason may have been the last brick in the wall of neo-Aristotelian rhetoric. The question remains of how we should deal with the logic of the macro-level irony of a time period. History has shown that many narrative episodes that originated with the atomic bomb later proved to be false, or at

least misleading. These imagined fears accompanied the bomb much like a gangster’s companion and appeared in every Cold War theme, even those that are still in use today. A few cases of communist espionage such as the Ethel and Julius Rosenberg or Alger Hiss may have attracted the public attention, but the idea of mass infiltration of Soviet spies proved to be an exaggerated and distorted historical threat fallacy. A triumphant culture permeated America as soon as the atomic bombs dropped on Japan ended the war. America won militarily, economically, and indeed majestically with the ultimate weapon of both devastation and propaganda: the mushroom cloud. The twentieth century became the Age of America, and Japan got what was coming to it.

This culture was short lived when America almost immediately found itself in the center of an arm race with the Soviet Union and the belief that communist agents were communicating with the Department of State. America’s Second Red Scare began shortly after the end of World War II and lasted through the late 1950s, an apparent consequence and response to a Soviet Eastern Europe, the Berlin Blockade, and the Chinese Civil War. The House Un-American Activities Commission (HUAC) investigations led to several confessions of collusion by several high-ranking US government officials. The time was also characterized by heightened fears of espionage, sabotage, and communist influences on American institutions such as the media, military, and academia.

Proliferation and nuclear annihilation became legitimate military goals. The mushroom cloud itself became an image of power and fear. Nuclear fears morphed into a ticking time bomb when the Doomsday Clock premiered on the cover of the 1947 *Bulletin of the Atomic Scientists* set at 7 min to nuclear annihilation. The closer this symbolic face of death came to midnight, the closer the directors of the *Bulletin* estimated the world was to a global disaster.

In its 60-year history of clicking away toward doom, the closest the clock ever came to midnight was 11:58 PM in 1953 when the Soviet Union and the USA tested thermonuclear devices within 9 months of each other. It was also a time of space ships and aliens as America sought out refuge and meaning in fictional espionage and radiation. Children began exchanging Children’s Crusade Against Communism bubblegum cards in 1951, but 8 years later they were far more interested in Bullwinkle J. Moose and his sidekick Rocky the Flying Squirrel as they prevented the terrorist attacks of Pottsylvania agents Boris Godunov and Natasha Fatale. The clock was rewound in 1960 for the first time back to the original 7 min to midnight when the USA and Soviet Union appeared eager to avoid direct confrontation in regional conflicts such as the 1956 Egyptian-Israeli dispute.

In 1964, Lyndon Johnson ran the infamous Daisy Spot where he told the nation, “We must either love each other or die.” The political ad against Barry Goldwater featured a little girl counting off the peddles of daisy and ended with a nuclear explosion. The Doomsday Clock was reset 11:48 PM as American Napoleon Solo (Robert Vaughn) and Russian Ilya Kuryakin (David McCallum) worked together to fight “thrush’s” attempts to take over the world. The scientists continued to reset the Doomsday Clock up and down as American settled into Strategic Arms Limitation Talks (SALT) treaties, regional conflicts, and the Soviet invasion of Afghanistan that hardened the US nuclear posture.

The clock reached 3 min to midnight in 1984 when US–Soviet relations reached their iciest point in decades. The clock reached its farthest point away from nuclear annihilation in 1991 when government officials on both sides claimed the Cold War was over. The clock did not stop for long at 17 min for India and Pakistan staged nuclear tests only 3 weeks apart in 1998. The next year James Bond (Pierce Brosnan) uncovered a nuclear plot while protecting an oil heiress in the *World is Not Enough*. The attacks on 9/11 caused another clock reset when new fears emerged of terrorists getting their hands on the enormous amount of unsecured—and sometimes unaccounted for—nuclear-grade material, most of which resulted from the break-up of the Soviet Union.

Wars continued to be measured by mushroom clouds the next year when Wolfe Blitzer interviewed Secretary of State Condi Rice in 2002:

BLITZER: Based on what you know right now, how close is Saddam Hussein’s government—how close is that government to developing a nuclear capability? RICE: You will get different estimates about precisely how close he is. We do know that he is actively pursuing a nuclear weapon. We do know that there have been shipments going into Iran, for instance—into Iraq, for instance, of aluminum tubes that really are only suited to—high-quality aluminum tools that are only really suited for nuclear weapons programs, centrifuge programs. We know that he has the infrastructure, nuclear scientists to make a nuclear weapon. And we know that when the inspectors assessed this after the Gulf War, he was far, far closer to a crude nuclear device than anybody thought, maybe six months from a crude nuclear device. The problem here is that there will always be some uncertainty about how quickly he can acquire nuclear weapons. But we don’t what the smoking gun to be a mushroom cloud.

The clock and the cloud were constant reminders of how close we were to global nuclear war until 2007 when the clock also began reflecting climate-changing technologies, “new developments in the life sciences and nanotechnology that could inflict irrevocable harm.” It was about this same year that Jack Baur (Kiefer Sutherland) stopped a terrorist plot to set off a suitcase nuclear device in New York City and prevented China from getting sensitive circuitry that could trigger a war between America and Russia. Not only was the fear of nuclear annihilation on display but also was the ticking clock before every commercial break and often during the narration of the TV program 24.

The ticking clock, the image of the mushroom cloud, and the fear of the communists and nuclear terrorism are all examples of what I refer to as atomodoxies. An atomodoxy is a Cold War myth, theme, or metaphor that resulted from the opinions of experts and often-imagined conspiratorial fears of the populace that began shortly after the creation of the atomic bomb and never truly faded. The same memes appeared in both newscasts and the fictional media, and are equally recognizable in both adult and children entertainment, but have become so tightly knitted together that they have become dreadlocks of paranoia and fear. This is not to say that America was never in any danger from the Soviets. It was just that the danger was exaggerated and distorted by those with specific goals, be they political or social, during a time of historical crisis. These memes became representations of a conspiratorial reality.

Richard Hofstadter defines conspiracy as “a vast, insidious, preternaturally effective international conspiratorial network designed to perpetrate acts of the most

fiendish character.” This “style” or “way of seeing the world and expressing oneself” occurs during crisis moments over “long spans of time and different places.” The paranoid idealists perceive history in apocalyptic terms, a convergence of history and a crisis moment. This conspiracy creates an opposition between the virtuous and a perceived enemy who cannot be mediated or compromised. This enemy is an active agent, free of “the toils of the vast mechanism of history.” Decisive events become the consequences of will.

The true believer is concerned over these demonstrations and heroically strives to find evidence of wrong doings. The believer’s intense rationalism compulsively creates order in a fantasy world that leaves “no room for mistakes, failures, or ambiguities.” An atomodoxy is thus a Hofstadterian conspiracy: an amalgamation of historical fallacies, such that true believers “see only the consequences of power—and this though distorting lenses—and have little chance to observe the actual machinery.”

The atomodoxy has deep roots that date back to America’s Revolutionary War. As the American government became larger, more impersonal and complex, officials were increasingly scrutinized because “people became uncertain of what was who and who was doing what.” Fundamentally, American secular thought was structured in such a way that conspiratorial explanations of complex events became normal, necessary, and rational. Early American conspiracy theories were shaped by a variety of factors including distance from power and the inability to gain knowledgeable information, but they became a cultural field of layered communication and provided an alternative historiography in which the status of ideologies were reworked and expanded. Ideas are thus withered to what George Washington called “rationalizations as masks obscuring the underlying interests and drives that actually determined social behavior.” Conspiracy theories are rationalizations of the unknown that can lead to fearing a nemesis that may or may not be based in a real-world scenario. This fear can turn into a moral panic like it did during the atomic age.

Cohen’s definition of moral panic has become the standard:

A condition, episode, person or group of persons emerges to become defined as a threat to societal values and interests; its nature is presented in a stylized and stereotypical fashion by the mass media; the moral barricades are manned by editors, bishops, politicians, and other right-thinking people; socially accredited experts pronounce their diagnoses and solutions; ways of coping are evolved or (more often) resorted to; the condition then disappears, submerges or deteriorates and becomes more visible.

Moral panic research tends to focus on how the media and public figures mobilize public opinion by exaggerating and distorting the threats, but Cohen claims that the social reaction is not enough to judge a moral panic; moral panic draws and evokes deeper or latent tension and fears. We can prepare rationally for what is known. Panic is created from what is unknown. Nuclear fear and panic is extreme because of the latent threat potential.

Baudrillard claims that it is not the direct threat of atomic destruction that confuses people, but the “deterrence that gives them leukemia.” The world pretends to believe that atomic destruction could happen, or at least in the reality of the threat,

but it is exactly at this point where the empty signifier begins. The originality of the situation lies in the improbability:

Deterrence precludes war—the archaic violence of expanding systems. Deterrence itself is neutral, implosive violence of meta-stable systems in involution. There is no longer a subject of deterrence, nor an adversary nor a strategy—it is a planetary structure of the annihilation of stakes. Atomic war, like the Trojan War, will not take place. The risk of nuclear annihilation only serves as a pretext, though sophistication of weapons...for installing a universal security system, a universal lockup and control system whose deterrent effect is not at all aimed at an atomic clash (which was never in question, except without a doubt in the very initial stages of the cold war, when one still confused the nuclear apparatus with conventional war) but, rather, at the much greater probability of any real event, of anything that would be an event in the general system and upset its balance. The balance or terror is the terror of balance.

Not only has there never been a truly atomic war, as Baudrillard envisions it, but also there never will be one since a total planetary annihilation is at stake. It is the risk that serves as a weapon because it justifies a system of destruction that will never be needed yet is rarely questioned. Baudrillard claims that this balance of terror is the true monster, a monster that we raced to create. Panic becomes the logical response to the monster that is no longer in our control.

The fiction begins with the idea that the danger will not be real as long as everyone behaves in certain and specific ways. It is the idea and not the reality that is in play. The result is the best system of control that has ever existed—the hyper-model of security. This is an example of what Tabako refers to as discursive irony that “appears on the macro-level of a whole discourse when the discourse’s intrinsic contradictions are revealed.” The control can be continually exploited, even though the empty signifier is revealed, because the metaphors and themes continue to work effectively. The problematic infallibility of atomodoxies controls the social through intimidation to conform to specific ideas and behaviors. Thus, all preparations for such a war, from duck and cover cartoons to tanks and submarines, are purely speculative and based on opinions or ideas: what Solomon calls the “objective reality of empirical need.”

Precedent has already occurred to treat the nuclear war threat atomodoxy as fiction. Derrida argues that such a conflict would be an event without precedent and would bring about the “total and remainderless destruction of the archive...the terrifying reality of the nuclear conflict can only be the signified referent, never the real referent (present or past) of a discourse or a text.” Nuclear war thus takes on a “fabulous textuality” since it only exists “through what is said of it.” Since they cannot be known in advance, the view of “experts” becomes merely opinions that can cause panic rather than diminish it. Although Derrida is redefining rather than denying the nuclear referent, his argument still has an effect of fictionalizing the whole premise of nuclear annihilation and raises the status of literature that deals with it. Literature, even science fiction, occupies a space equal to sociological, strategic, and other modes of speculation if nuclear war can only be approached speculatively. Derrida even names modernists such as Mallarme’, Kafka, and Joyce as being especially relevant to the age. If the fiction of nuclear war were as important as Derrida would lead us to recognize, then the fiction should be attended to and the literary canon reexamined.

Two atomic bombs have been dropped strategically to end a war, one on Hiroshima and the other on Nagasaki, but Derrida explains that these bombs ended a “classical,” conventional war. Seed claims this idea categorically ignores the continuing debate over how to “narrativise” these two events (to speed Japanese surrender or to warn the Soviets of America’s new technology). The obliteration of these two cities has been used as a means of measuring the possible annihilation caused by such a war, yet even the iconoclastic reporting of people like John Hersey—who claimed that clothes patterns could be seen on the bodies, eyes were turned into jelly, and the shadows of the atomized victims were imprinted on the walls of Hiroshima—and the fact that 130,000 people were vaporized in a single flash sounds like science fiction. There is no reason to doubt Hersey’s writing since anyone who visits the Nagasaki Peace Museum would find that the reportage is consistent with the consensus view of what happened, but the graphic quality of Hershey’s writing gives science fiction its comic book punch. This comic book punch is what pulses beneath the symbolic surface of atomodoxy.

The atomic bomb bisected history. The world would always be different and no one knew how exactly. This form of fiction would no longer be a charming, romantic expression of freedom and naïveté, but implosive imagery of Cold War conceptions of false realities that continue to plague the USA even as the century turned. From this “moment on,” claims James Gunn, “thoughtful men and women recognized that they were living in a science fiction world.” Isaac Asimov pointed to this paradigm shift as well when he claimed “The dropping of the atomic bomb in 1945 made science fiction respectable.”

10.3 The Nuclear Desert

Baudrillard claims America has a “primitive culture” since it lacks a rich historical and cultural past in which to root, and from which to reflect upon the present moment. Furthermore, America displays a primitive culture desert-like aura: “This country is naïve, so you have to be naïve.... Insignificance exists on a grand scale and the desert remains the primal scene.” The desert is a place where there are no signs of human existence, leaving only the indifference of pure objects, neutrality, and dead images that characterize contemporary America. Baudrillard explained why the desert is fascinating, “It is because you are delivered from all depth there—a brilliant, superficial neutrality, a challenge to meaning and profundity, a challenge to nature and culture, an outer hyperspace, with no origin, no reference-points?” Every sign is a blur as it flies past on the southern portion of Route 66, resulting in the cultural vacuum of what appears to be an infinite space. America, for Baudrillard, is approaching a “vanishing point” of the social, meaning, truth, history, and reality.

With the atomic bomb, life emerges from the desert but in a significantly different form. The atomic fear began to swell through the nation as the media immediately conjured up images of vaporized cities. The dean of radio news commentators, H. V. Kaltenborn told his radio audience on the day of the Hiroshima bomb: “For

all we know, we have created a Frankenstein! We must assume that with the passage of only a little time, an improved form of the new weapon we used today can be turned against us.” From the first day an atomic bomb was dropped on foreign soil, the prospect of global annihilation by self-created monsters was preparing the social consciousness.

Manhattan Project physicists participated in the cultural mythologization of their discoveries with the choice of Los Alamos for the Trinity Site. The choice deliberately situated the scientists on a mystic desert location that local New Mexicans called “the Magic Mountain” or “Shangri-La.” The scientists convinced themselves that they were saviors who would end the war and usher in a new world of peace. The bomb exploded at on July 16, 1945, with “the brightness of several suns at mid-day” and forced a purplish mushroom cloud high into the atmosphere. Within 10 years, both Genghis Khan, as noted in the introduction of this chapter, and a colony of giant murderous ants the size of elephants roamed the same desert hell-bent on destroying humanity. Both left questions concerning the results of atomic fallout.

Like God, the atomic bomb apparently could create life as well as take it away. Two state troopers at the beginning of the 1954 movie *Them!* find a young girl wandering in the desert. The troopers create a plaster cast of a single footprint near the trailer where the little girl lived with her parents, and this cast is sent to the Federal Bureau of Investigation (FBI) in Washington for identification. Dr. Medford and his daughter Dr. Pat Medford (Edmund Gwenn and Joan Weldon) come to New Mexico after identifying the print as belonging to a species of ant that had mutated to a gigantic size. They find and destroy the New Mexico nest but after two young queen ants had already escaped. One of the ants starts a nest on a military ship at sea. After the ants kill the entire crew the ship is sunk and the invading ants are killed. Another ant makes her way to the Los Angeles drainage system. As the final nest is being destroyed, FBI agent Robert Graham (James Arness of *Gunsmoke* fame) asks the older doctor:

Robert Graham: If these monsters got started as a result of the first atomic bomb in 1945, what about all of the others that have exploded since then?

Dr. Medford: Nobody knows, Robert. When man entered the atomic age he opened a door to a new world. What we will eventually find in that new world, nobody can predict.

The atomic bomb opened a Pandora’s box. Nobody could explain what was in store in this new age because the bomb changed all of the rules. The result was not only confusion and uncertainty of American power but also the fear of others getting the atomic bomb and using it on domestic cities. Fiction and fact merged in the desert. Is it no wonder that so much science fiction begins in wastelands such as deserts, Antarctica, or outer space?

Ernesto Laclau and Chantal Mouffe emphasized “the impossibility of society” in their project to reformulate the Gramscian concept of hegemony in the light of social fragmentation of late capitalism. America during the 1950s experienced the emergence of an increasingly heterogeneous and antagonistic social field in which the proliferation of differences threatened to lead to a general crisis of identities. Robert J. Corber follows Laclau and Mouffe in conceiving of the social as both the

infinite play of differences and the attempt to fix or halt that play in a structured network of meaning:

Although the social is always structured around a constitutive impossibility that necessarily thwarts any attempt to suture it as a totality, all social formations develop articulatory practices, or nodal points, that partially fix the excess meaning of the social in an organized and relatively closed system. For this reason, at the same time that the individual occupies a multiplicity of contradictory subject positions s/he also feels constrained to constitute from those positions a relatively stable, or hegemonized, identity.

The instability of the individual’s subjectivity, its construction across variable axis of differences, is one of the necessary conditions for the hegemonic articulation of a partially fixed identity. The 1950s’ science fiction filmic discourse constituted a nodal point that partially fixed the individual’s identity in a relatively coherent and unified ensemble of differences. The prevalent pattern of Hollywood films of the 1950s was the attempted resolution of these differences in support of traditional hegemony.

The assimilating pod people from outer space who invade Santa Mira in *The Invasion of the Body Snatchers* were characterized as not only hard working and vigilant but also deceptive and conforming. The main character, Dr. Miles Bennell (Kevin McCarthy), tells the story of how his life took a tragic turn after returning to Santa Mira from a medical conference. His office was beseeched with patients who claimed their family members were not who they appeared to be, almost as if they had been replaced by other people. He consulted with several of his colleagues who told him that these types of reports had been coming in all week, and they had concluded it must be some type of mass hysteria. When Bennell’s friends show him a partly formed body they have uncovered in their home late at night, Bennell realizes that there may be some truth behind the stories. They quickly realize these bodies are the result of gigantic pea-pods strategically located all over town. The film ends with Dr. Bennell explaining to psychologists why he was trying to stop cars on the highways by yelling, “Listen to me! There isn’t a human being left in Santa Mira. Look, you fools, you’re in danger. Can’t you see? They’re after you. They’re after all of us: our wives, our children, everyone. They’re here already. You’re next! You’re next! You’re next!”

In describing the meaning of the *Body Snatchers*, Thompson writes, “This film can be seen as a paranoid 1950s warning against those Damn Commies or, conversely, as a metaphor for the tyranny of McCarthyism or the totalitarian system of your choice.” However, Kevin McCarthy, who starred in the film, claimed that neither he nor the original Collier’s Magazine serial writer Jack Finney, whose story the film was based, ever had McCarthyism or communist infiltration in mind:

I thought that, gee this is about people who work on Madison Avenue. They have no hearts at all. These advertising people just turn out material and sell things and do it unemotionally.... I never had any idea that it had any political significance. That came afterwards. People began to find it politically suitable.

Invasion of the Body Snatchers emerges as more than just a work of science fiction, or a warning against communism, but a dramatization of such nonfiction works as William Whyte’s *Organizational Man*, C. Mills’ *White Collar* and David Riesman’s

The Lonely Crowd. The aliens play the role of Riesman's "outer-directed" personalities who are motivated by desire to assimilate with each other rather than conform to traditionally established behavior. The disturbing aspect of the film was not that everyone was required to conform, but those who were formally in charge, the white patriarchy, also had to change.

The 1950s' science fiction served the same role as George Orwell's novel *Animal Farm* performed in the preceding decade. Firstly, the novel and the films identified that there was both an Enemy (with a capital "E") and a conspiracy. Secondly, they identify the enemy as a sociocultural outsider—yet someone who might also appear to be "normal." Finally, they set the stakes as high as could be psychologically calculated: the total destruction of all life on earth. Further examination of the 1950s science fiction allows for several other atomodoxies to emerge. American scientific or sexual transgressions produced unbridled procreation that threatened the social, be it capitalism, private enterprise, of life itself. The monsters threaten the postwar depiction of humanity. Kaltenborn's Frankenstein was not the bomb dropped on Japan, but the bombs others created to balance out America's atomic power. This situation forced a confrontation with America's own shadow, a doppelganger that emerged from the dark. Failure to take seriously the charges of a domestic subversion/invasion would lead to the loss of life and the American nuclear juggernaut. Essentially, once the Frankenstein monster was created, a bazooka was still needed to kill it. All spaceships, giant ants, and pod people had to be destroyed. Only total commitment, not just containment, could save us.

While America owned some of the responsibility, its military prowess and ingenuity could prevail as long as everyone worked together in unison. This may be the most dangerous atomodoxy of them all. The prevailing assumption appeared to be that the Enemy was a hostile and duplicitous enemy devoid of emotions and individualism that carries out orders emanating from the hive (or Moscow). Indeed, the danger is in the balance of conforming versus the removal of liberty and freedom for the sake of security. The streets of Los Angeles had to be deserted to protect the populace from the invasion of giant ants. Evacuation in the modern world requires miles of cars in single file rows on the highways. In order to be protected from the monsters, citizens must act like the ants themselves, without emotion or individual empowerment. Security becomes the perfect alibi for undemocratic responses.

The hero is the one who witnessed the destructive forces and stood firm against the monster, but still worked within the system of the white Protestant patriarchy. This is the reason why the HUAC and Joe McCarthy needed insider witnesses. "Victory will be assured once Communists are identified and exposed," J. Edgar Hoover claimed to the HUAC, "because the public will take the first step of quarantining them so they can do no harm." In effect, Americans needed to know whom among them were to be destroyed. The quintessential hero is the sympathetic witness, innocent, truthful, and untainted by any political affiliation. Americans fooled themselves by thinking that they should be afraid of the communists. The communists did not create the ants in the desert any more than they grew the Santa Mira pods. Americans did that to themselves. If Kevin McCarthy is to be believed,

capitalism gone awry forces Americans to be conformists. A nonemotional Wall Street entices consumers to feed from a single source. When a squished grasshopper is not available, then Americans feed off of themselves by searching for phantom conspirators and saboteurs. The world was changing rapidly and American needed untainted hero witnesses who could save them. Ask not what your country can do for you, but what you can do for your country.

10.4 Conclusion

Artifacts from a given time can often be unpacked to reveal aspects of society that may be hidden to traditional historical methods. Understanding a time period requires knowledge of the ideologies grafted to these artifacts. An atomodoxy is a Cold War myth, theme, or metaphors that resulted from the opinions of experts and often-imagined conspiratorial fears of the populace that began shortly after the creation of the atomic bomb and never truly faded. They simultaneously circulated in the narratives of popular culture, specifically science fiction, where narratives create and sustain particular constellations of nuclear knowledge.

The atomodoxies revealed in this chapter are instantly recognizable to anyone with knowledge of either the 1950s or the science fiction produced in Hollywood during this time. These narratives serve as a didactic function by instructing the Polis on how to respond to an atomic void. These can be unpacked to reveal important moral lessons such as what is required to create a particular citizen who is willing to identify the threat and protect the homeland. Atomodoxies help us to analyze texts such as films and novels created during this time period, but they are not limited to organized fictional works. Fiction is never created in a vacuum but is the result of the context in which it emerged. Themes, myths, and metaphors can emerge to create an understanding of a suddenly chaotic world. They were not necessarily based on facts but on ideas that propelled public sentiment that may have been invisible as they paralleled history. They work like a companion to historical facts that can later be deciphered and argued.

Atomodoxy is a reimagining of the narrative analysis of history. As Fisher suggests, we believe certain things because they make sense to us through fidelity and coherence. We then share these narratives with others to create shared fantasies. The movie audience as well as policy makers must struggle over heroes and villains for this is how a society creates shared fantasies and visions that give structure to life. Hunter S. Thompson wrote, “Myths and legends die hard in America. We love them for the extra dimension they provide. Weird heroes and mound-breaking champions exist as living proof to those who need it that the tyranny of the rat race is not yet final.” The strength and longevity of the Cold War atomodoxies die hard as well for the same reasons for they are the building stones of the myths and legends of the last half of the twentieth century. It is difficult to progress when the atomodoxies are so resilient to change.

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James Eric (Jay) Black is a professor of journalism at Mercer University’s Center for Collaborative Journalism and a working journalist with both domestic and international experience. Jay’s professional background includes radio, television, magazine, newspapers and movies. His many awards include the National Association of Teachers of English Award for Superior Writing, The Roberta Kevelson Scholarship Award from the Semiotic Society of America, and The Atlanta Olympic Committee’s Olympic Force Award for Superior Community Service. He also created the first student-run college newspaper and American student-run radio program in China. He received his PhD in public communication from Georgia State University in 2012, and his masters from the University of Kansas in Journalism Management in 1998.

Chapter 11

The Semiotics of “Monk” Rehearsals: A Weaving of Two Texts

Kathy L. Schuh

The room was quiet. The young musicians were seated in their chairs, holding their instruments on their laps. The conductor walked to the podium, opened her music, picked up her baton, and glanced over the group. As she raised her arms, the students lifted their instruments to their mouths. With an upsweep of her right arm, the students took a collective breath. As the conductor’s arms descended, the musicians began the piece together.

Music provides an arena for the exploration of semiotics and the meaning that individuals make of sign systems. For example, Henrotte (1992) discussed the relationship between music and gesture related to aesthetic value. Gestures in music, of which one type includes the physical movement of the conductor, is “an essential aspect of musical performance” (Ben-Tal 2012, p. 248). Burrows (1990) described the gestures of music, those that the conductor uses, as the closest representation of music itself. In musical rehearsals, this sign system allows communication and musical interpretation to integrate; Mathers (2009) notes the use of nonverbal expressions and movements, including gestures, as more effective than words to communicate feelings and mood. In my training as a K–12 music teacher, I learned the appropriate gestures used in conducting, allowing me to communicate to the band or choir how I wanted them to interpret the music they would play or sing. In this chapter, I describe monk rehearsals, an activity that I used during my teaching experience, and provide a semiotic interpretation of the two texts that the rehearsal included—the conducting text and the classroom management text.

Because I was the only music teacher at the two schools in which I taught during my 6 years as a K-12 music teacher, I had the opportunity to teach all of the students in the school all aspects of music. In particular, I was able to develop my own instrumental music program, sequencing the skills developed in my elementary, junior high, and senior high bands. From the beginning of their band experiences, students were not only to play the right notes but were also expected to interpret the written musical symbols and understand the role of the conductor to help them

K. L. Schuh (✉)
The University of Iowa, Iowa, USA
e-mail: kathy-schuh@uiowa.edu

with that interpretation. An important aspect of musical conducting is bringing out the nature of the piece in the way the composer intended by supporting musicians in the development of a unified interpretation of the piece. Aspects of music, such as meter and tempo, dynamics, articulation, and musical releases, are communicated through the gestures of the conductor. However, generally speaking, seventh-grade band students do not recognize these gestures (Cofer 1998), although the recognition can be increased with instruction. Skadsem (1997) found that high school and college choral students responded better to verbal indicators of dynamics (loudness and softness) than to modeling, gesturing, and referring to the written score, yet verbal instruction has limitations in music rehearsals. It can interrupt the flow of the rehearsal. And, in fact, nonverbal instruction (or reminders) is necessary in performances, where it is inappropriate for the conductor to verbally remind a musician of elements of musical expression in the piece.

The purpose of these conducting gestures and the students' sensitivity to them became more apparent in "monk" rehearsals. In a monk rehearsal¹, talking is not allowed, not among the students or between students and director. I believe monk rehearsals provide a means to help students develop skills in the interpretation of musical gesture by drawing attention to those gestures. In my teaching, monk rehearsals were first used out of necessity. The instructional strategy allowed me to direct rehearsals when I had laryngitis. Monk rehearsals were so popular with the junior high and elementary band students in particular that they were used at times when I could be vocal.

11.1 Peirce's Sign Typology

In my analysis of the gestural signs within my rehearsal, I draw on Peirce's (1893–1910/1985) trichotomic system that includes representamen (or sign), object, and interpretant. These three elements are tightly bound together. The representamen, or the sign, is that which does the representing; "it stands to somebody for something in some respect or capacity" (Peirce 1893–1910/1985, p. 5). This sign is internal to the individual, created in the mind and may capture different aspects of that to which it refers. For example, qualisigns refer to the qualities of what is being represented (i.e., the quality is the sign) and sinsigns denote aspects of time and space. Legisigns are those words and symbols that have been developed by convention.

A sign is bound to an object. An object might be simply described as a "thing," although its existence does not have to be current (i.e., may have formerly existed or expected to exist in the future; Peirce 1893–1910/1985). The object is that about which the sign conveys further information. Not all objects are represented by signs (Deely 1990); some are merely objects and do not provide meaning for particular individuals. While the object might seem to be that which the sign is standing for (the referent or what is signified), categorically, types of objects capture the relationship between the object and the sign. An icon notes a relationship between the sign and

¹ I did not invent the use of monk rehearsals as an instructional strategy. I believe I found out about them through a discussion at a music conference in the 1980s.

object by resemblance. An index represents the object’s existence through time and/or space (Danesi 1998); being anything that focuses attention (Peirce 1893–1910/1985). Indices are further distinguished from one another. A spatical deixis refers to spatial locations. These might be indicated physically (e.g., pointing in direction) or through words (here, there), for example. Temporal deixis indicate relationships in time (before, after, and even left and right if one considers a timeline). Personal deixes indicate relationships among people. These could be indicated by gesture (e.g., pointing at someone) or through language (e.g., pronouns). Objects that are symbols represent by convention (such as a word). Finally, the interpretant captures the meaning of the sign, and again is denoted by three types which link to the signs themselves. For example, the interpretant of the qualisign is a rheme, of a sinsign is a dicensign, and an argument is the interpretant of a legisign (Danesi 1998). In Peirce’s (1893–1910/1985) description of ten classes of signs, he notes legitimate combinations of the sign, object, and interpretant type depending on focus of attention. Danesi (1998) summarized Peirce’s sign typology, noting the seemingly discrete types of signs (qualisigns, sinsigns, legisigns), objects (icons, indexes, symbols), and interpretants (rhemes, dicensigns, arguments). These nine elements guided, my interpretation of a monk rehearsal.

11.2 The Two Texts of Monk Rehearsals

The value of a monk rehearsal in terms of semiotic analysis was that it allowed a focus on interpretive gestures. In the rehearsal, I needed to make my gestures very clear so that the students would do what they were supposed to do, musically and otherwise. The gestures used in the rehearsal were objects; however, the intended outcome was that they be signs for the students. Two texts, each a weaving of signs to communicate (Danesi 1998), were involved in monk rehearsals. The first was the text of musical conducting. In isolation, the gestures did not implicitly imply musical interpretation. In other words, the gesture could be a mere object, rather than a sign, or could be a different sign. For example, a waving hand movement could mean nothing; it could be a gesture to hail a taxi, or a gesture that brings in the low brass in Holst’s *Second Suite in F*. Yet, when these gestures are integrated in a musical rehearsal, they support musical interpretation, and thus are potential signs for performers in the domain of music. Although the text of musical conducting has evolved and become conventionalized, and are thus symbols in much the same way words are, in this chapter I will consider that these symbols are the “residue” of icons and indexes (Danesi 1998). I will look at them as more than the conventionalized text that I was taught as a conductor and consider their nature as signs.

The second text used in monk rehearsals was invented as a means to facilitate the nonmusical aspects of the rehearsal—those aspects of classroom management that may typically have been gestural to a degree, but were largely verbal. During the monk rehearsal, new gestures were invented on the fly and later became common throughout the rehearsal. This text, referred to as the management text, was the weaving of gestures that were specific to our social situation and allowed the rehearsal to take place.

11.2.1 *Beginning the Rehearsal*

At the beginning of the monk rehearsal, students would prepare just as they would for any other rehearsal: setting up chairs and stands if needed, assembling instruments, and gathering their music. The students' nonverbal behavior indicated that being mute was fun, as they gestured with their hands and mouths, showing each other that they *were not* talking, reminding each other not to talk, and animatedly communicating with one another as they prepared for the rehearsal. These gestures replaced the typically verbal interaction and also included the students' feelings about this situation, interpreted as being enjoyable by both me and the students. Given this, these early rehearsal activities were signs themselves, indicating personal meaning of the situation to which the students responded. These were rhemes—an interpretant of a qualisign (Danesi 1998), their gestures referring to the quality of the experience.

A conducting strategy that I used every day that was particularly helpful in the monk rehearsals was the use of the podium to indicate that it was time to begin. My presence in front of the music stand (my podium) was a sinsign, which indicated we were ready to begin (thus, the interpretant was a dicisign). The object, the time to begin, was a temporal deixis noting the temporal relations among events. Further, this indexical relationship had developed into a convention. In musical groups, the conductor standing at the podium is a standard protocol for the beginning of rehearsal, thus, a legisign. This conventional sign is well understood in musical rehearsals and performance. In addition to this temporal sign for the beginning of the rehearsal, my presence at the podium also implied a personal deixis, noting a relationship among the individuals in the group—me as the conductor and the students as the players.

Our first task in the rehearsal was to organize the rehearsal music into playing order. In regular rehearsals, I would read the names of the pieces. In the monk rehearsal, I would hold up each piece of music in the order in which they would be played. Thus, the organization of the pieces as I presented them was a sinsign, representing the order in which the pieces would be rehearsed. While something as physical as showing sheets of papers may seem as an icon in terms of the object, with the presentation of the sheets physically resembling the order; rather it seems more a temporal deixis, much like a number line would be (Danesi 1998), with the presentation of the sheets capturing the temporal ordering.

11.2.2 *The Conducting Text: Elements of Music*

Following warm-ups, we would begin our first piece. The individual gestures in the text of musical conducting communicate a number of things: who plays, when they should play, the speed at which they should play, and the style in which they should play. In addition, the gestures prepare the musicians to play and support their interpretation of the music. Because I was at the podium, I had the students' attention to begin the piece (again, a legisign). I raised my arms with baton in hand. Students who would play within the first phrase placed their fingers appropriately and moved their instruments to their mouths (except for the percussionists, of course). My ges-

ture was indexical. More specifically, it may be considered a spatial deixis, capturing the correlation between my arm movement and the location of the instruments for the students who would play. With arms raised, I again scanned the entire group to make sure that they were ready, expecting eye contact with all individuals. I interpreted the students’ returned eye contact as a sign for their readiness, a personal deixis, referring to the relationship among participants—players and conductor ready to begin. If the entire group would play the first note, I would keep the wide view, communicating with all of the students with my eyes. If there was a smaller group who would play on the first beat, I focused my attention on them, turning my body toward them, maintaining eye contact, and directing the first beat pattern at them. This gesture was another index, a personal deixis, indicating specifically “who” was to play through my eye contact and physical placement.

The backbone of the musical conducting text is the beat or meter pattern (the beat being the “pulse” of the music). It indicates the meter of the piece (how many beats per measure, with a subtle stress on the first beat of each measure) and, for young bands in particular, helps the players stay together. Many conductors enact a number of meter patterns before the piece begins. As a young conductor, I had been told that this was an inferior conducting strategy². Semiotic analysis provides an explanation of why this tactic may be considered inferior. It replaces the above-described indexical system with a gesture whose interpretation is better used as the music is played (i.e., the beat pattern becomes part of a management text as the conductor continues to wave about hoping for students’ attention). All that is needed to begin a piece is a one-beat preparation. This one-beat preparation can be a temporal deixis, indicating when in time the musical event would precisely occur, and as such, it is a sinsign. When a continuing gesture of multiple measures is provided before the piece begins, the beat gesture is merely an object in terms of meaning about *when* the piece should begin. Thus, another sign of readiness must be used, generally a verbal cue or an additional gesture. Because of this, the gesture no longer can be interpreted as a sign to begin the piece. The simple temporal deixis provides an efficient means to communicate information about how and when the piece should proceed. This single preparatory beat is also iconic, and thus a qualisign, foreshadowing the music to follow in terms of tempo and style. For example, a quickly occurring single beat indicates that the tempo of the piece will begin at that same quick tempo. A smooth pattern will communicate that the piece will begin in that smooth style, precisely one beat after the onset of the object.

Within the piece, I communicated the meter of the piece using a beat pattern. There are many beat patterns and any number of them may be used in one piece as indicated by the composer. A commonality of patterns is that the first beat of the measure is always in the down position (see Fig. 11.1). Thus, the beat pattern continues as a sinsign to those who interpret it as such, indicated by a temporal deixis, just as the single preparatory beat began, correlating the first beat of the measures: the sound and the musical notation.

² I learned this conducting convention in my choral conducting course with Edwin R. Fissinger (1920–1990) as an undergraduate at North Dakota State University.

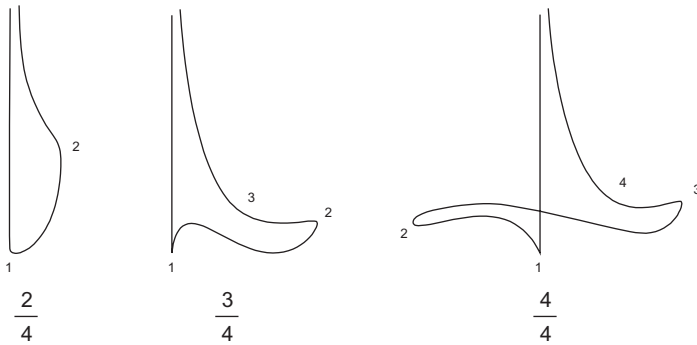


Fig. 11.1 Temporal deixis of the common beat patterns showing where the beats in the measure lie in the conducting gesture

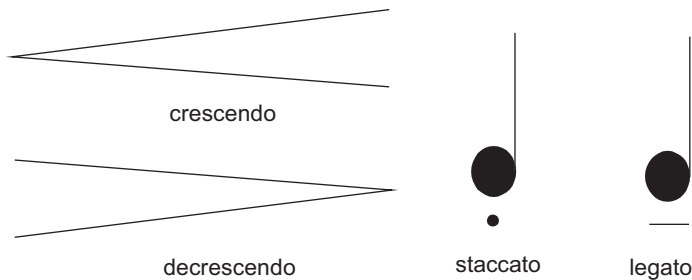


Fig. 11.2 Iconic musical notation for dynamics and articulation

Embedded in the beat pattern, and often supplemented by the use of the other hand, are dynamic, articulation, and musical release signs. Dynamics (changes in loudness and softness) are largely indicated by the size of the beat pattern. This gesture is iconic in that it represents, by resemblance of size, the volume that the players will produce. The larger the pattern created by the conductor's arm, the larger the volume expected from the ensemble of musicians. Gradual changes in dynamics such as crescendos (gradually louder) and decrescendos (gradually softer) are indicated by the hand that is not gesturing the meter and are also iconic. Generally, a low hand, with palm down, represents soft and physically raising the hand (palm up) is a sign for the music to become louder. Although I chose not to focus on the relationships to written musical notation in this chapter, it is worth noting that the iconic relationship exists within the written symbolic notation as well. The shape of the decrescendo and crescendo symbols indicates the change in volume (see Fig. 11.2), this conventional musical symbol seeming to capture the idea that "symbols are 'residues' of icons and indexes" (Danesi 1998, p. 44).

Articulation is the style of attack on the notes; thus the signifiers are qualisigns, referring to qualities of the music. Examples are staccato (separated) and legato (connected). Again, the gesture is embedded within the beat pattern. Short bounces

at the beat points indicate that the notes played should be short as well. For legato, a fluid beat pattern indicates that the music should be played as such. These signs are also spatial deixis in that the style parallels the spacing of the notes (where they will occur related to one another)—the gesture physically mirrors what should happen aurally. The articulation gesture may also be considered iconic in that the visual appearance of the beat pattern parallels the aural length. Again, the written notation is an iconic representation in that the symbols look like what will be heard (see Fig. 11.2).

Musical releases (cutoffs, meaning something in the music ceases) may come at the end of a phrase, a section, or the end of the piece. In addition, a musical release may happen at different times for different players. If a musical release occurs within the piece for a particular player or group of players, the conducting continues. Thus, this closure cannot indicate finality. Often, there is a need for multiple gestures, communicating not only different releases and entrances to specific individuals but also different musical styles to different individuals in the group. For example, at the same time that the clarinets are to taper off, the trombones may be brought in with gusto. Thus, as noted previously, the gestures are iconic as well as various types of indexical gestures needing to also be interpreted in conjunction with a personal deixis—essentially stating who should interpret the sign. Body language, including head and arm movement as well as facial expressions supports this complex process (see Poggi 2011, for an annotation scheme of this complexity that captures the goal-directed communication of conductors that includes various elements of head, facial features, trunk, and hand gestures).

The musical release at the end of the piece is usually straightforward and indicates that everything should be silenced. This is often communicated through a circle gesture with a closing of the thumb and forefinger at the exact point where the piece is to end. This is a temporal deixis, representing “when” in time the piece will end, as well as being iconic (closing the sound), serving as both a qualisign and a sinsign. Further, a musical piece is not over until the conductor has lowered his or her arms. The hope of all musical conductors is that this sign has indeed been conventionalized to everyone in the audience at a musical performance. The lowered arms are a temporal deixis, a sigsign that applause can begin. While the conducting text is used in musical rehearsals as well as musical performances, rehearsals require additional signs to allow for their effectiveness.

11.2.3 *The Management Text*

Typically, the musical gestures described above are common in any rehearsal by any conductor. Many of the gestures that I have discussed communicate basic musical styles included in first and second year instrumental music books (Cofer 1998). Unique to the monk rehearsals is the management text that develops so a *rehearsal* can actually take place. Some of the beginning rehearsal activities and stepping away from the podium are gestures of the management text. The conductor standing

at the podium indicates it is time to work, while stepping away indicates the players' attention may briefly be diverted from the music.

In a rehearsal, musical difficulties can occur in a piece, meaning that particular parts need to be rehearsed. This can happen at any time during a piece; consequently a musical release can be given at any time. At that point in the monk rehearsal, it was necessary to communicate why we stopped if it was not the end of the song, where we would start again, who would play, how the music could be improved, and then the students needed an opportunity to improve. The management text facilitated this process.

When a musical release is given in the middle of a piece, it is often because there are improvements to be made in the playing or interpretation of the music. Semiotically, how these needed corrections may be interpreted depends on perspective. Assume, for example, that the musicians were well intending and believed they interpreted the music and conductor's gestures correctly. Then, the students' musical interpretation was a *dicisign*, meaning that their interpretation was a *sinsign*—capturing how their interpretation of the music was to proceed in time, or it could be a *rheme*, thus their interpretation of *qualisigns* in the musical experience. While these individual interpretations may seem legitimate, in an ensemble, the interpretation is very “conductor-centered” rather than being individually interpreted; in other words, the interpretation is grounded in *legisigns*. Given that, it is possible to misinterpret a sign if that sign is to be conventionalized; then the player's interpretant, the meaning of the sign, is viewed as being an error. The primary task in the musical rehearsal is to develop a mutual interpretation of the signs, which leads to further conventional understandings.

Fortunately, music is often marked with rehearsal letters (which can be indicated by forming letters with your fingers—an icon) or rehearsal numbers (which can be indicated by flashing numbers of fingers—also an icon) that facilitate starting in the middle of a piece. Once a rehearsal number or letter near the place to start was communicated, measures or beats before or after that area can be identified by indexical hand gestures. Personal *deixis* gestures indicated who is to play (pointing to individuals, instrument sections, or the full group). To communicate the style changes, I would use the musical conducting text, emphasizing the gesture *and* its appropriate interpretation. This allowed students to focus on the gestures and interpret them in a particular way. In monk rehearsals, students were typically more attentive to these style indicators, perhaps because of the novelty of the situation or because it was the primary means of communication.

While stopping in the middle of a piece is a sign that improvement is needed, in a monk rehearsal, as in any rehearsal, a positive assessment of the played music should be given to the players as well. Common gestures were used to indicate when a piece was well done such as clapping, OK sign, motioning for someone to stand up and take a bow, as well as facial gestures. These *qualisigns* were particularly important at the end of the rehearsal to send the students to their next class with some positive feedback.

The school bell, a temporal *deixis* typically used in schools, could not be used to end a musical rehearsal. In band, students needed to have time to properly maintain

their instruments, pack them up, and put away equipment as needed. The end of a monk rehearsal was easily indicated by closing my music folder, an alternative temporal deixis to the traditional bell.

11.3 Conclusion

Considering the activity in a classroom environment, such as a music classroom, from a semiotic perspective, points to a number of texts that may co-exist. As in this example, one text is specifically related to the content, the other to classroom management. The interaction between these two texts is important in that it seems reasonable to assume that if the domain-specific text is well used, and learners become attuned to the signs of the domain, the use of the classroom management text may decrease. Imagine for example, the use of the conductor at the podium to represent focused, quiet attention. Once students are well aware of this sign system have ascribed meaning to the gesture, and for well-intending students the management system is replaced with content-specific signs. Further, the analysis of the domain-specific text noted efficiencies in the use of particular sign systems (such as the single preparatory beat). Thus, semiotic analysis may indicate why potential signs in a domain may be more effective than others.

These sign systems allow for efficiencies in the process as participants become adept at interpreting the signs in the environment. As Vygotsky (1978) noted, these signs then mediate learning. It is through exposure to objects and interpreting these signs relative to the content and the learning environment that learning can take place. As students are exposed to objects in a domain, they can become signs to which learners ascribe meaning. Instruction can support this process, as noted by Cofer (1998), in improved seventh-grade band students’ interpretation of 18 conducting gestures. Some gestures seemed more difficult for students to ascribe meaning to, thus particular signs may take longer for students to interpret, or may develop later.

A limitation of this analysis concerns my own interpretation of Peirce’s trichotomic semiotic system. By definition, the three elements, object, signifier, and interpretant, are tightly bound (Deely 1990; Peirce 1893–1910/1985). Given that, it is difficult as well to see object, sign, and interpretation as elements that allow for distinct labeling as I have attempted. Peirce (1893–1910/1985) notes legitimate combinations of sign–object–interpretant relations, as well as aspects of particularness and collective laws, which I have omitted in the analysis. Certainly others may interpret the elements of my monk rehearsal differently.

Although I initially used monk rehearsals out of necessity, they became a very positive teaching tool in that the rehearsal provided opportunities for students’ heightened awareness of the gestures of conducting that were always in place but often times were not attended to. In other words, the instruction prompted objects to be realized as signs by necessity. It is the weaving of the management text and the musical conducting text that made the rehearsal successful, pushing the gestures

of musical interpretation to the forefront. There is much information in the signs of conducting. It is necessary for young musicians to learn these conventions. Monk rehearsals provide an enjoyable avenue for students to develop awareness of the gestures of musical conducting text. Further, the weaving of the two text involved in a monk rehearsal provided a rich venue for analyzing activity using Peirce's system of signs.

Notes

1. I likely learned about monk rehearsals as a teaching strategy through a discussion at a music conference in the 1980s.
2. I learned this conducting convention in my choral conducting course with Edwin R. Fissinger (1920-1990) as an undergraduate at North Dakota State University.

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Kathy L. Schuh is an Associate Professor of Educational Psychology at the University of Iowa. Her research interests are learning sciences and meaning-making processes in children. Her major publications include *Knowledge construction in the learner-centered classroom* (2003), *Rhizome and the mind: Describing the metaphor* (with D.J. Cunningham, 2004), and *Idiosyncratic knowledge connections as affordances for knowledge construction* (2008). She is currently working on a book entitled *Making meaning by making connections*.

Chapter 12

Deviant Orthography

Frank Nuessel

12.1 Introduction

Orthographic systems are conservative, and these literal symbols rarely reflect the sounds of a language accurately because of diachronic linguistic change, regional dialects, and other factors. In order to represent precisely the sounds of a language, a writer would have to make use of the International Phonetic Alphabet devised by the French linguist, Paul Passy (1859–1940) to reflect those sounds systematically. A completely phonetic rendering of a language would, nevertheless, yield problems. First, it would require a massive reeducation of a new generation of readers, who would have to learn the new code. Second, all printed materials would have to be rendered into the new system. Third, after a generation of reeducation, future readers and researchers would have to learn the old orthographic system. Finally, dialect variation would mean that certain words would require variant renderings to account for vocalic variation in English.

12.2 Deviant Orthography

Orthography may be defined as the rules and regulations relating to the letters (consonants and vowels) of a language, i.e., the use of a set of symbols to correspond to the sounds of a language. The etymology of the word orthography comes from two Greek words *orthós* “correct” and *gráphein* “to write.” Orthography may also include hyphenation, capitalization, word breaks, emphasis, punctuation, and their appropriate use in the writing of a language through symbolic representation.

F. Nuessel (✉)
University of Louisville, Louisville, USA
e-mail: fhnues01@louisville.edu

Deviant orthography represents a break with normative and conventional spelling rules. The purpose of deviant orthography is manifold: (1) to imitate the spoken language, (2) to send electronic messages with character limits, (3) to mask the use of a taboo expression, (4) to reform conventional orthography, (5) to create a unique brand name for trademark purposes, and (6) to disclose ignorance of the traditional orthographic code. In the first five instances, the deviation from traditional orthographic norms is purposeful and functional, while in the last case, it is unintentional, and inadvertent.

12.3 Eye Dialect

The term “eye dialect” refers to the efforts of creative writers to use the conventional orthography of a language to imitate dialect variation in a quasi-phonetic fashion. Much has been written about literary dialect (Chapman 1982, p. 1988). The origin of this term has been attributed to George P. Krapp (1872–1934), who described this literary phenomenon as follows (1925, p. 228; cited in Bowdre 1964, p. 3–4):

Of the dialect material employed in American literature, several clear kinds may be distinguished. First and most extensive in use is the class dialect which distinguishes between popular and cultivated or standard speech. This calls for no detailed discussion. The impression of popular speech is easily produced by a sprinkling of such forms as *aint* for *isn't*, *done* for *did*, *them* for *those*, and similar grammatical improprieties. This impression is often assisted by what may be termed “Eye Dialect,” in which the convention violated is one of the eye, not of the ear. Thus a dialect writer often spells a word like *front* as *frunt*, or *face* as *fase*, or *picture* as *pictsher*; not because he intends to indicate here a genuine difference of pronunciation, but the spelling is merely a friendly nudge to the reader, a knowing look which establishes a sympathetic sense of superiority between the author and reader as contrasted with the humble speaker of dialect.

Many well-known writers have employed eye dialect in their creative works, e.g., Mark Twain (1835–1910), William Faulkner 1897–1962), Robert Ruark (1915–1965), Charles Dickens (1812–1870), Alex Haley (1921–1992), Harriet Beecher Stowe (1811–1896), Terry Pratchett (1948–), and Russell Hoban (1925–2011), to name but a few.

Two selected examples of eye dialect in American English include the following, which appear in Bowdre’s (1964) doctoral dissertation entitled *A Study of Eye Dialect*, although the original versions were used for this study. These samples illustrate this phenomenon in American literature. The first is from a dialect poem entitled “Thars More in the Man Than Thar is in the Land” by Sydney Lanier (1842–1881, Lanier, 1945, I: 23; cited in Bowdre 1964, p. 33). The pertinent dialect words appear in boldface type:

And **thar** was Jones, **standin’** out at the fence,
 And he hadn’t no **waggin**, nor mule, nor tents,
Fur he had left Texas afoot and **corn**
 To Georgy to see if he couldn’t get **sum**
 Employment, and he was a **lookin’** as hum
 Ble as if he had never owned any land.

The salient examples of manipulation of conventional orthography in Lanier's poem to imitate the spoken language include the following:

1. *Thar* for *there*
2. *Standin'* for *standing*
3. *Waggin* for *wagon*
4. *Fur* for *for*
5. *Cum* for *come*
6. *Sum* for *some*
7. *Lookin'* for *looking*

A second example of eye dialect comes from a dialectal poem entitled "Thoughts fer the Discouraged Farmer" by James Whitcomb Riley (1849–1916, Riley 1911, p. 17; cited in Bowdre 1964, p. 39). The pertinent words appear in boldface type:

Does the **medder-lark complane**, as he swims high and dry
 Through the waves of the wind arid the blue of the sky?
 Does the quail set up and **whissel** in a disappointed way,
Er hang ill's head in **silunce**, and sorrow all the day?
 Don't the buzzards ooze around up **thare** just like
 they've **allus** done?
 Is **they** anything the matter with the rooster's lungs or voice?
 Ort a **mortul** be **complalnin'** when dumb animals rejoice?

Once again, the salient examples of manipulation of conventional orthography in Riley's poem to imitate the spoken language include the following:

1. *Medder-lark* for *meadowlark*
2. *Complane* for *complain*
3. *Whissel* for *whistle*
4. *Er* for *or*
5. *Silunce* for *silence*
6. *Thare* for *there*
7. *Allus* for *always*
8. *Mortul* for *mortal*
9. *Complalnin'* for *complaining*

Eye dialect occurs in other languages as well. Two well-known Hispanic authors have used this literary technique with great success for the Spanish language, namely, the Cuban novelist Guillermo Cabrera Infante (1929–2005; Nuessel 1982) and the Puerto Rican dramatist René Marqués (1919–1979; Nuessel 1997).

12.4 Cyberspeak, Netspeak, and Textspeak

A number of terms exist to refer to the abbreviated language used to send messages on electronic media such as the Internet, e-mail, and short message services (SMS) such as *Twitter*[®]—a very popular social networking and microblogging service

Table 12.1 Common netspeak abbreviations

Abbreviation	English language equivalent
aml	All my love
cmb	Call me back
cw2cu	Can't wait to see you
Eod	End of discussion
Ilu	I love you
Jk	Just kidding
Lol	Laughing out loud
Prw	Parents are watching
rme	Rolling my eyes

that allows a user to send succinct *communiqués* to a group of followers (Baron 2008; Crystal 2004, 2006, 2008, 2011; Sebba 2007). SMS is a common component for smart phones, web, and mobile communication systems. Messages are limited to a maximum of 140 characters, which requires the user to shorten conventional orthography in a variety of ways. A few, now well-established conventions are available for abbreviation in these ubiquitous communications. First, certain keyboard symbols that correspond to English words may be use, e.g., the number “2” may stand for “two,” “to,” or “too.” Abbreviations are also common, e.g., “lol” stands for the phrase “laughing out loud.” Furthermore, the use of keyboard symbols to create recognizable facial expressions is common. These are known as emoticons, a combination of the words “emotion” and “icon.” The “Smiley” is the best know example. This is a trademarked symbol licensed by Smiley World Ltd. Its origin has been traced to the Ingmar Bergman (1918–2007) film *Hamnstad* (1948) where a smiley face first appeared. Several people are associated with its subsequent development including Harvey Ball (1921–2001), an artist who developed a happy face in 1963 for what is now Hanover Insurance, and Franklin Loufrani who introduced it in France bestowing upon it the name “Smiley”. It should be noted that some word processing programs automatically convert a colon “:” and the second part of a parenthesis “)”, when immediately adjacent, into a “Smiley”, e.g., ☺.

This specialized abbreviated linguistic code has been named: cyberspeak, netspeak, and textspeak. As its use has expanded exponentially, public familiarity with its linguistic abbreviations and symbols has increased as well. Thus, people are now incorporating these abbreviatory and symbolic codes into their linguistic repertoire as a sort of second language.

Table 12.1 contains selected examples of netspeak abbreviations with their English equivalents.

Table 12.2 contains a selected list of conventional keyboard symbols that correspond to English words.

Finally, Table 12.3 contains a selected list of emoticons, which involves the use of conventional keyboard symbols that correspond to emotional states. The word

Table 12.2 Sample netspeak symbols

Symbols	English language equivalent
@	At
2	To, too, two
2b	To be
?	What
8	Ate, eight
4	For, four
C, c	See
U, u	You
B, b	Be, bee

Table 12.3 Sample emoticons and their meanings

Emoticon	English language equivalent
:)	Happy
:(Sad
:-<>	Surprised
:-]	Leering
;-)	Winking
(>_<)	Angry
(=_=)	Sleepy
*:~o	Alarmed
:~)	Impish

emoticon is a combination of the words “emotion” and “icon.” Crystal (2004), p. 38–39) defines emoticon as “[a] sequential combination of keyboard characters designed to convey a particular facial expression.” These pictographic representations of emotions have now involved into creative graphics that depict meaningful artistic portrayals of objects and persons (Nuessel 2006, p. 595).

12.5 Taboo Language

Taboo language refers to words or phrases that members of society consider unacceptable for various reasons. In his introductory chapter in his book on cursing in America, Jay (1992), p. 1–15; see also Hughes 1991 for further discussion) discusses and exemplifies a variety of designations that fall under the rubric of taboo words, namely, cursing, profanity, blasphemy, taboo, obscenity, vulgarity, slang, epithets, insults and slurs, and scatology. It is not the purpose of this section of deviant orthography to address the nuances of these concepts, though they are significant. Rather, their orthographic representation is the chief concern here.

Most often, these terms deal with bodily functions, e.g., sexual acts, urination, and defecation. These taboos are the result of societal conventions. These words may be conveyed via conventional orthography in several ways. The unacceptable word may employ an asterisk (*) between the first letter and the last letter of the word. Since most taboo words consist of four letters, the reader is able to fill in the missing letters, e.g., “f••k,” or “s**t.”

It should be noted that the global retailer and fashion clothing company *French Connection United Kingdom*[®] uses an abbreviation of its complete name in lower case *fcuk*[®] to promote its wares. To be sure, this initialism, which is so similar to a frequently used English four-letter word, has provoked some controversy. As a result, this *French Connection*[®] has stopped using the initialism in advertising.

In addition to the use of space holder such as an asterisk to suggest a taboo word without actually spelling it out, comic strips, newspapers, and magazines may use symbols from a conventional keyboard. The comic strip *Beetle Bailey* (1950–) by cartoonist Mort Drucker (1923–) uses these symbols to depict “swearing,” or the use of profanity. These symbols usually correspond to the number of letters in the actual taboo word, e.g., “#@*!” to stand for many common “four-letter” words. The context of the cartoon usually allows the reader to determine which word is meant.

12.6 Orthographic Reform

The movement to reform American English orthography has a long tradition (Anonymous 1890; Dornbusch 1961; Groff 1976; Ranow 1954; Wingfield 1931) in the USA. In the nineteenth century, the Spelling Reform Association published a bulletin entitled *Bulletin of the Spelling Reform Association*, which addressed such matters.

There is a popular claim that “ghoti” spells “fish” based on the following orthographic assumptions.

- *gh*, pronounced as final sound in *tough*
- *o*, pronounced as the middle sound in *women*
- *ti*, pronounced as the middle sound in *nation*

The “ghoti” legend has often been attributed to the renowned Irish dramatist, George Bernard Shaw (1856–1950), a well-known proponent of spelling reform. However, this discussion never appears in any of his writings, but the origin of this tale remains obscure. There is a textual reference to “ghoti” in James Joyce’s (1882–1942) *Finnegans Wake* (Joyce 1939, p. 299), which states “Gee each owe tea eye smells fish.” This clever play on words merits a brief discussion. Joyce chose actual English words homophonous with the pronunciation of the letters of the English alphabet as illustrated in the following set of correspondences in Table 12.4. These English words correspond to the letter-by-letter pronunciation of the putative lexical item “ghoti.” Furthermore, the last two words of this Joyce quotation constitutes another pun since it is common to hear that “ghoti” spells “fish.” Joyce, however, says “smells fish,” which is a clever allusion to the odor associated with fish.

Table 12.4 Correspondence of English words to letters of the alphabet for “ghoti”

English word Joyce’s <i>Finnegans Wake</i>	Corresponding letter of the English alphabet
Gee	“g”
Each	“h”
Owe	“o”
Tea	“t”
Eye	“i”

There are many other popular culture references to “ghoti” including the use of “ghoti” as the word for “fish” in the invented language Klingon (Klingon Words Not in *The Klingon Dictionary* 2013).

President Theodore Roosevelt (1859–1919) is one of the most prominent Americans to support orthographic reform (Dornbusch 1961, p. 237; see also Vivian 1979). In fact, President Theodore Roosevelt instructed the Public Printer to introduce simplified spelling. This enterprise was, however, rebuffed, and the president made no further attempts at orthographic reform.

In a later effort at spelling reform, during the period from January 28, 1934, to September 28, 1975, *The Chicago Tribune* introduced selective spelling reforms for approximately 80 words in English under the leadership of its publisher Robert R. McCormick (1880–1955) including the following selected examples in Table 12.5.

While the rationale for orthographic reform is well intended, there are certain constraints related to it. Sebba (2007), p. 157–167) considers orthography to be a complex issue including issues related to identity, iconicity, interlinguality, and authority to name but a few salient components. First, all extant books would have to be published in the new orthographic system. Second, the school system would have to teach the new orthography. Third, at some point, there would be a generation of the public that would have difficulty reading the vast collection of books written the old system. Finally, the question of which dialect to represent would be a challenge. In sum, it is unlikely that a massive spelling reform will occur anytime soon.

12.7 Brand Names

Danesi (2000), p. 40; See also Danesi 2006) defines “brand name” as a “[n]ame given to a product in order to infuse it with a ‘personality’ with which certain consumers can identify.” Table 12.6 lists some common brand names with unconventional, or nontraditional orthography. The rationale for the use of deviant orthography in brand names is to create a unique product or service that can be trademarked, thereby preventing competitors from using this name.

Table 12.5 *Chicago Tribune* spelling reform

Conventional American English orthography	<i>Chicago Tribune</i> orthography
Aghast	Agast
Bureaucrat	Burocrat
Freight	Frate
Hearse	Herse
Island	Iland
Rhyme	Rime
Telegraph	Telegraf
Though	Tho
Through	Thru
Thorough	Thoro

Table 12.6 Brand name orthography and its conventional English versions

Brand name orthography	Traditional orthography
<i>Air-Flo</i> [®]	Air flow
<i>Bratz</i> [®]	Brats
<i>Hozelock</i> [®]	Hose lock
<i>Kant-Leak</i> [®]	Can't leak
<i>Kolor Kote</i> [®]	Color coat
<i>Krispie Kreme</i> [®]	Crispy cream
<i>Lectric Shave</i> [®]	Electric shave
<i>Playskool</i> [®]	Play school
<i>Sleepeezee</i> [®]	Sleep easy
<i>Unedda</i> [®] Biscuits	You need a biscuit

12.8 Mistakes

The dictionary defines “mistake” (Morris 1979, p. 840) as “Based on an error; wrong.” Imperfect learning of orthographic conventions in our school systems may be a part of the reason certain words are frequently misspelled. Table 12.6 lists some of the most commonly misspelled words in English (Common Misspellings 2013). The asterisk (*) before each word in column 1 of Table 12.7 is the standard linguistic convention to indicate an ungrammatical element (misspelled word).

Most word processing programs have a “spell check” feature, which allows the author of a text to check for incorrect spellings of words. Some word processing programs will autocorrect commonly misspelled words, e.g., the replacement for the correct form “accommodate” for the incorrect form “acomodate,” “and the correct form “receive” for the incorrect form “recieve,” and so forth. However, if a person uses an actual English word, which is incorrect in a specific context, e.g., “red” for “read,” “led” for “lead,” and so forth the spell check program will not correct this typo of orthographic error.

Table 12.7 Most commonly misspelled words in English [* = misspelled form]

Misspelled version of word	Correct spelling
• <i>Accomodate</i>	Accommodate
• <i>Acheive</i>	Achieve
• <i>Accross</i>	Across
• <i>Agressive</i>	Aggressive
• <i>Apparantly</i>	Apparently
* <i>Appearence</i>	Appearance
* <i>Arguement</i>	Argument
* <i>Beleive</i>	Believe
* <i>Collectable</i>	Collectible
* <i>Embarass</i>	Embarrass

Table 12.8 Erroneously spelled Italian words and corresponding correct spellings

Erroneous Italian word or phrase	Correct Italian word or phrase
* <i>crustini</i>	crostini
* <i>pizza margarita</i>	pizza margherita
* <i>restorante</i>	ristorante
* <i>foccacia</i>	focaccia
* <i>osso bucco</i>	osso buco
* <i>prosciutto</i>	prosciutto

Ethnic restaurant menus frequently contain misspellings when the name of the food from the other language is represented. Many Italian restaurants in the USA contain misspellings of common Italian foods as illustrated in Table 12.8 (Quatro fromaggio 2013). The author has verified all of these misspelling on the menus in Italian restaurants. The asterisk (*) before each word in column 1 of Table 12.7 is the standard linguistic convention to indicate an ungrammatical element (misspelled word).

12.9 Concluding Remarks

This chapter on deviant spelling deals with several common manifestations of divergence from an orthographic norm including literary dialect in which a creative writer tries to imitate a specific dialect through the deft manipulation of conventional orthographic symbols. Next, new technology (e-mail, tweets, text messaging, and so forth) has introduced constraints on the length of messages with the result that various forms of abbreviation and substitution of symbols for sounds are now employed to address the length limitations. A third form of orthographic deviation arises from efforts to avoid taboo words in popular publications. Fourth, proposals

for orthographic reform have surfaced periodically to address problems in orthography. Such transformative orthography is unlikely to be successful for a variety of reasons. Fifth, brand names sometimes employ deviant spelling to provide a unique branding strategy for various products. Finally, imperfect learning of American English or lack of knowledge of spelling conventions in other languages are a cause of orthographic mistakes.

Deviant orthography is often a deliberate choice of an author or writer in order to achieve a desired effect, e.g., imitation of a regional dialect, limits on length of messages on new technology, efforts to reform a perceived archaic orthography, and branding strategies for various products. However, simple ignorance of spelling conventions may be the reason for nonstandard spellings.

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Frank Nuessel is a professor in the Department of Classical and Modern Languages and Program in Linguistics at the University of Louisville (fhnues01@louisville.edu). He is also a university scholar (University of Louisville, 2008–). His research interests include Italian studies, Hispanic linguistics, gerontology, onomastics, and semiotics. He is a fellow in the Gerontological Society of America (2002–) and the International Communicology Institute (2005–). He received the Robert A. Miller Diversity Award (2004) and the Educator Achievement Award from the Kentucky Association for Gerontology (2003). He served as the president of the Semiotic Society of America (2011) and he is currently the president of the American Association of Teachers of Italian (2012–2014). He is the editor of *NAMES: A Journal of Onomastics* (2008–) and the review editor of *Language Problems and Language Planning* (1983–).

Chapter 13

Semiotics of Translation: An Interdisciplinary Approach to Translation

Evangelos Kourdis

13.1 An Introduction

Recently, a growing number of scholars have been studying semiotics as a research tool in translation. At the same time, the *semiotics of translation* or *translation semiotics* (TS) has been established as a theoretical approach in the collective volume *Routledge Encyclopedia of Translation Studies* (Baker 1998; Baker and Saldanha 2009). From the perspective of semiotics, translation is studied as a purely semiotic act that involves the transition from one semiotic system (source language) to another (target language). As Susan Petrilli (2001, pp. 278–279) mentions “[t]ranslation [...] is a phenomenon of sign reality and as such it is the object of study of semiotics.” This semiotic act can be interlingual, intralingual, or intersemiotic translation. Similar views are also adopted by translation scholars. Susan Bassnett (1991, p. 13) mentions that “[a]lthough translation has a central core of linguistic activity, it belongs most properly to semiotics, the science that studies sign systems or structures, sign processes and sign functions.” This perspective is best understood if translation, as defined by Julian House (2009, p. 4), is examined “[...] the process of replacing an original text, known as the source text, with a substitute one, known as the target text.” The two terms “text” and “substitution” are fundamental in semiotics as they allow the translatability/substitution of every semiotic system/text¹ for another. In fact, such an approach to translation is largely due to the multidisciplinary nature not only of semiotics but also of translation studies.

¹ “The concept ‘text’ is used in a specifically semiotic sense and [...] is applied not only to messages in a natural language but also to any carrier of integral (‘textual’) meaning—to a ceremony, a work of the fine arts, or a piece of music” Uspenskij et al. (2003/[1973]). For Göran Sonesson (1998, p. 83), “it may also be described as that which is (should or could be) subject to interpretation.”

E. Kourdis (✉)
Aristotle University of Thessaloniki, Thessaloniki, Greece
e-mail: ekourdis@frl.auth.gr

13.2 Translation as an Interdisciplinary Act of Communication

Considerable mutual influences between semiotics and translation studies have existed for several decades. According to Jeremy Munday (2004, p. 182), “[t]ranslation studies is an example *par excellence* of a field which can bring together approaches from a wide range of language and cultural studies, modifying them for its own use and developing new models specific to its own requirements.” More precisely, George Floros (2005, p. 61) mentions that translation is related with disciplines that conduct contrastive intercultural research, such as anthropology, cultural studies, intercultural communication, comparative studies, cultural semiotics, and sociology. Floros (2005, p. 77) also observes that “[t]he fact that the Translation Studies are informed by neighboring or ‘wider’ academic disciplines should not lead immediately to the adoption of their results.”

Although I agree with the aforementioned views, I am surprised that linguistics is not included. In the past, translation focused on the nature of the signifier, which accounts for the prioritization of the linguistic dimension of the translation process. As a result, translation was categorized as an exclusively linguistic process. However, we know that interlingual translation implies the other two types of translation, namely intralingual and intersemiotic (Gentzler 2001, p. 1; Torop 2002, p. 593; Tomaszewicz 2005, p. 165; Petrilli and Ponzio 2012, p. 21), which are directly linked with the interdisciplinary nature of translation.

In the past, several scholars had reservations against scientificism, believing that it would prevent scientific thought from focusing on a single research subject; in the field of translation, though, this issue has never been raised. This is why translators need to refer to or recall other texts in order to carry out their task. As Susan Petrilli and Augusto Ponzio (2012, p. 15) remark: “translative processes across languages evidence the dialogic intertextuality structural to texts, such that textual practice itself in a single language is already an exercise in translation.” Similarly, Umberto Eco (2001, p. 13) states that “[...] translating is not only connected with linguistic competence, but with intertextual, psychological, and narrative competence.” The same concepts, *dialogue* and *intertextuality*, are also used by Roman Jakobson (1971/[1967]), who dedicated an essay to the relationship between linguistics and other sciences. There he described the bond that should exist between them within the so-called interdisciplinary dialogue.

Interdisciplinarity can work in a “soft” way of simple *multidisciplinarity*, i.e. as a horizontal approach that enables a better comprehension or representation of an object whose comprehensive study escapes the grip of a single disciplinary method; but it can also work in a “strong” way of *metadisciplinarity* or *transdisciplinarity*, i.e. as a research of a vertical dependence that methods and objects of such a discipline can have when read and understood in the light of broader and more foundational knowledge, from which may also implicitly be assumed principles, models and statements. (Jakobson 1971/[1967])

The truth is that researchers on translation have related interdisciplinarity to the concept of text type and not with cultural texts which constitute the basis of semiotics.

Text types are linguistic products, whereas cultural texts are not exclusively linguistic. As Anti Randviir (2007, p. 142) mentions: “[n]ow, communication, the nature of space and the structure of texts are intertwined, and we talk about intertextual spaces, intersemiotic and intersemiosic communication.” Thus, the issue of interdisciplinarity is relevant to translation.

In the process of translation, a translator is faced not only with verbal texts but also with other semiotic texts, even nonverbal texts, since:

The translator must navigate in the iconic dimension of language and move beyond the conventions and obligations of the dictionary to enter the live dialogue among national languages, among languages internal to a given national language, and among verbal signs and nonverbal signs. (Petrilli and Ponzio 2012, p. 20)

In fact, Petrilli and Ponzio point to the continuous transition of the translator from one cultural text to another. The expansion of the translation process to include nonverbal texts has caused a dispute about the nature of translation. However, there seems to be an agreement that contemporary communication is based almost exclusively on multimodal texts. According to Gunther Kress and Theo van Leeuwen (2006/[1996], p. 39), there is an “[...] incessant process of ‘translation,’ or ‘transcoding’—transduction—between a range of semiotic modes [that] represents, we suggest, a better, a more adequate understanding of representation and communication.” The boundaries of the term *translation* were expanded by the semioticians quite early, a fact not acknowledged by translation scholars, who perceived their approach as being primarily metaphorical. Gradually, however, this attitude changed.

Several translation scholars turned this metaphorical character into an advantage for the image–text communication of our time, and started to comply with Michaela Wolf’s (2009, pp. 77–78) argument that “[...] banning a metaphorical variant of the translation notion [...] from the field of research of Translation Studies would ultimately mean rejecting any sort of interdisciplinary work in this respect. Interdisciplinarity, however, has been constitutive for the discipline from its very beginning.”

13.3 Semiotics and Translation: Definitions and Propositions

Semiotics of translation should be seen within a wider interdisciplinary context. The term is used nowadays to define the semiotic approach to translation process. Although the term seems to have prevailed both in the area of semiotics and of translation studies, if we follow chronologically the thought of seminal scholars of the semiotic approach to translation, we will see that this particular term has not been the only one proposed to describe that approach. The term *semiotics of translation* was used in the early 1980s by Gideon Toury (1980, p. 12), along with the term *semiotics and translation* (Toury 1980, p. 7), according to which translation was considered to be a semiotic activity.

Later, Dinda Gorfée (1994, pp. 226–227), based on the work of the American philosopher Charles Sanders Peirce, introduced the term *semiotranslation*, arguing that we should consider the logical semantics of semiotics as an example of the translation of signs. In particular, Gorfée argues that translation is an endless semiosis where translators play a key role as they try to interpret the source text and produce its translated form in the target language.

At the same period, Peeter Torop (1994), one of the leading figures of the semiotic approach to translation nowadays,² also spoke of the *Semiotics of translation* and *translation semiotics*. For Torop (2008, p. 257), “[t]he ontology of translation semiotics rests on the recognition that culture works in many respects as a translation mechanism [...]” As it is shown later, the fact that translation is identified with culture is in the core of the semiotics of culture.

Other theorists of semiotics associated translation with the transmutation of semiotics systems. Thus, Paolo Fabbri (2008/[1998], pp. 160–161) referred to *transduction* defining it as “[...] the translation between different semiotic systems.”³ Fabbri argues that we are led to this proposition by the ability of the semiotic notions to have grammatical patterns open to comparisons between the various types of semiotic systems. Furthermore, he claims that it is possible to proceed to intralingual translation between different discourses, i.e., translate the scientific discourse into the poetic one.

A more cautious approach toward the semiotics of translation is adopted by Umberto Eco and Siri Nergaard (2001/[1998], p. 218), who refer to *semiotic approaches to translation* since “translation studies adopt more and more interdisciplinary approaches in the study of translation as an intertextual and intercultural drift.” They also highlight (Eco and Nergaard 2001/[1998], 221) that “[translation] involves passing from a text ‘a,’ elaborated according to a semiotic system ‘A,’ into a text ‘b,’ elaborated according to a semiotic system ‘B.’” Later, Eco justified once more the relevance of semiotics to translation by claiming that “linguistics itself cannot explain all translation phenomena, which should be approached within a more general semiotic view” (Eco 2003 p. 342).⁴

The term used by Eco and Nergaard (2001/[1998]) has also been adopted by Mathieu Guidère (2008, p. 58), who claims that “the semiotic approach has the advantage of manipulating different ‘worlds’ with the appropriate conceptual tools [...] as it allows the translator to integrate signs that come from different systems.” The term *semiotics of translation* suggested by Toury and Torop has also been adopted by other researchers. Thus, Petrilli (2007, p. 311) uses the term *semiotics of translation*, stressing the fact that “the theory of translation cannot ignore the semiotics of translation. On the other hand, the semiotics theory could benefit from the contribution of the theory and practice of translation.” Moreover, during the same period, Elin Sütiste and Peeter Torop (2007 p. 196) use the term *translation*

² See also Sütiste (2012, p. 271).

³ All translations from French and Greek into English are mine.

⁴ I use Eco’s version translated into Greek in addition to Eco’s English version of the same book because there is information in the Greek version, which is not available in the English version.

semiotics to describe the research area “which forming part of Semiotics analyzes comparatively the semiotic systems and the functional relations between different semiotic systems, and as an autonomous field, it provides the means to distinguish the degree of translatability of semiotic systems.” In fact, one year later, Torop (2008, p. 253) makes the overconfident statement that “[t]ranslation semiotics is on its way to becoming a discipline on its own,” even though, at the beginning, he saw the upsurge of this field as “a general change in attitudes to problems of translation” (Torop 2000, p. 597).⁵

For several years, there was no terminological agreement. Unlike the terms proposed by Eco and Nergaard in the first edition of the *Routledge Encyclopedia of Translation Studies*, in the second edition of the volume, Umbaldo Stecconi (2009, p. 261) speaks of *semiotics* and *translation*. Although Stecconi sets out his framework through a mixture of semiotic approaches to translation,⁶ the influence of Peirce becomes evident when he refers to *translation semiosis*. More recently, the last issue of the journal *Sign System Studies* (2012) adopts the term *semiotics of translation*. This is an indication that this term tends to become dominant.

13.4 Proponents of the Semiotic Approach to Translation

Several scholars argue that the interest of semiotics in the field of translation dates back to the Russian linguist Roman Jakobson (1959) and his work “On Linguistic Aspects of Translation.”⁷ In this work, Jakobson (1959, p. 233) characterizes translation as a form of indirect discourse, since it involves two equivalent messages in two different codes. However, long before Jakobson’s seminal article, the translation process attracted the interest of several semiotics scholars such as Peirce (1931–1966), Victoria Welby (1983/[1903]), and Mikhail Bakhtin (1986/[1950–1951]). The impact of Peirce’s work in the late nineteenth century is evident even in Jakobson, who described translation as *interpretation*. According to Eco and Nergaard (2001/[1998] p. 219–220), the relation of translation with the notion of interpretation reflects the influence of Peirce. Jakobson is believed to have referred to three types of *interpretation* influenced by Peirce (1931–1948, p. 4.127), who claimed that the sign lends itself to interpretation, and, as such, is translatable by other sign systems.

⁵ In 2010, Torop (2010, p. 2) redefined this research area by claiming that the semiotics of translation is a subdiscipline of the semiotics of culture.

⁶ This position is also evident in the definition given by Stecconi (2009, p. 260) “[...] semiotics is a theory of how we produce, interpret and negotiate meaning through signs.”

⁷ Despite the originality of this text, Elin Sütiste (2008, p. 309) concludes, after meticulous research on its influence on academia, that even though his influence was considerable, the categorization of types of translation was not further analyzed in accordance with his communicative model or vice versa. This has created the impression that this scope of study remained unexplored. Other scholars, such as Aline Remael (2010, p. 15), mention that Jakobson’s terminology itself relegated the terms to translation’s periphery.

Another important contribution to the field of semiotics of translation is the work of Victoria Welby in the early twentieth century. Welby (1983/[1903], p. 34) describes the human ability to assign meaning in the context of *translation thought*, i.e., an automatic process “in which everything suggests or reminds us of something else.” Thus, according to Welby (1983/[1903]), translation becomes a method of research and discovery, a method for verifying and acquiring knowledge, and for the development of critical consciousness.⁸

Furthermore, several semioticians argue that Jakobson’s statement about translation is based on the work of Louis Hjelmslev, who attributes a special place to language in relation to other semiotic systems. Hjelmslev (1963/[1943]), p. 109) argues that “in practice, language is a semiotics into which all other semiotics could be translated—both all the other languages and the other possible semiotic structures.” This translatability is based on the fact that all languages are capable of forming any meaning.

The semiotic approach to translation was also influenced by Mikhail Bakhtin. Torop (2002, p. 598) argues that although Bakhtin’s thought was not directly related to the problems of translation, scholars still find reasons to connect him to issues of translation. In particular, for Bakhtin (1986/[1950–1951], p. 106), there are two elements in the text: the language as a semiotic system and the text as utterance. Bakhtin claims that the text can never be translated perfectly.

Along with Jakobson, the Russian semiotician Lotman (1990) was also interested in the translation process expanding its scope from a challenging perspective. Lotman (1990, p. 143) influenced the field of semiotics of translation when he made provocative claims, such as “the fundamental act of thinking is translation,” and went on to add that “the fundamental mechanism of translation is dialogue.” Lotman’s ideas have resonated well with the work of translation scholars such as Itamar Even-Zohar and Gideon Toury, who, similarly to Lotman, drew considerable inspiration from Russian formalism (Sütiste 2012, p. 273). Torop (2002, p. 593), considers the contributions of Bakhtin and Lotman to be seminal because the two traditions together, namely Bakhtin’s *philosophy of language* and Lotman’s *semiotics of culture*, manage to bring together concepts such as dialogism, autonomy, polyphony, and translation.

Translation also attracted the interest of Eco (2003, p. 23), who claimed that semiotics considers the concept of translation essential, even when this is not explicitly stated. However, he argues that several of the contemporary concepts of translation studies (*equivalence*, *skopos*, *fidelity/faithfulness*, or *the translator’s initiative*) are now under negotiation. Eco (ibid., 24) also argues that translation is based on a process of negotiation where the loss of something is accepted in order to gain something else. In particular with regard to *fidelity/faithfulness* in translation, Eco (2003, p. 483) remarks that if we look up the synonym of the word *faith* in any dictionary, we will come up with the word *accuracy* among others.

⁸ For an analytical presentation, see Petrilli (2009).

13.5 Typologies of Translation with a Semiotic Background

Torop (2002, p. 593) sets Jakobson's tripartite categorization as the starting point of the semiotic approach to translation. According to Torop (*ibid.*), here for the first time translation was explicitly related to semiotics. Jakobson (1959, p. 233) distinguishes three ways of interpreting a verbal sign: (a) *intralingual translation* or *rewording*, an interpretation of verbal signs by means of other signs of the same language; (b) *interlingual translation* or *translation proper*, an interpretation of verbal signs by means of some other language; and (c) *intersemiotic translation* or *transmutation*, an interpretation of verbal signs by means of signs of nonverbal sign systems. As Torop (2011, p. 24) observes, the three types of translation outlined by Jakobson reflect the simultaneity of the three processes in the psychological process of translation, but the same kind of simultaneous process also takes place in culture.

Although this typology is considered a landmark by the researchers of semiotics of translation, it is not the only one. In his attempt to integrate more closely the semiotic approach to the field of translation, Gideon Toury (1994/[1986], p. 1114) expanded Jakobson's typology by distinguishing translation as either *intrasemiotic* or *intersemiotic*. Intrasemiotic is further divided into *intrasystemic* translation, i.e., intralingual, and *intersystemic* translation, i.e., interlingual. Toury⁹ does not elaborate on his typology, although he does explain that this categorization:

[...] it seems important and useful only to the extent that the relations between various semiotic systems really affect the mechanisms which are inherent in translating itself as a type of activity, a question that has not really been answered yet. (Toury 1994/[1986])

A rather controversial typology is proposed by Eco (2001, p. 99), who does not distinguish between types of translation, but between forms of interpretation. In his typology is attached to the problems posed by variations in both the substance and the purport of expression. Eco's typology distinguishes between *interpretation by transcription*, *intrasystemic interpretation*, and *intersystemic interpretation*. Equally important, though not particularly known, is the typology of translation proposed by Petrilli (2003, p. 19), who distinguishes between *intersemiotic* and *endosemiotic* translation. The former refers to the translation process between two or more semiotic systems, while the latter is about the internal process in a given semiotic system. Petrilli explains that both types are part of the real world and not only of the world of human culture.

It is worth mentioning that despite the efforts to categorize translation through a semiotic perspective, Jakobson's typology still remains the most influential among semioticians. Torop (2002, p. 593) underlines the important role of translation in producing culture, and points to the semiotic interpretation of the theory of

⁹ Toury (1994/[1986]) also wrote an entry on translation for the *Encyclopedic Dictionary of Semiotics* edited by Thomas A. Sebeok that was probably the first systematic discussion of the interrelations between translation and semiotics (Sütiste 2012, p. 273).

translation. According to Torop (2002), these researchers have put together interlingual, intralingual, and intersemiotic translation as a typology that is important for a further understanding of culture.

13.6 The Schools of Semiotics of Translation Today

The schools of semiotics that have studied translation have mainly adopted the positions of Peirce, Jakobson, Lotman, and Eco. I argue that the most important semiotic theorization of translation has been developed by the semiotic school of Moscow–Tartu. This school has influenced not only semiotics as a scientific area—advocating the autonomy of the semiotics of culture—but also translation, creating a school that is still influential for the semioticians of translation. So far, the most prominent figure of this school has been Torop, a systematic researcher of Lotman’s work, who has been closely involved in the foundation and development of this semiotic school.

Torop adopted Lotman’s concept of *semiosphere*¹⁰ to translation to describe its limits not as a restrictive factor but as a mechanism which translates external messages into the internal language of the semiosphere. Based on this approach, Torop (2002, p. 603) stated that “[i]n the discipline of the semiotics of culture it comes naturally to say that culture is translation, and also that translation is culture.” Torop (2002, p. 602) argues that the relation of the semiotics of culture to translation studies has introduced the concept of intersemiosis in addition to the concept of semiosis to the semiotics of culture. These theses seem to be embraced by Peeter Torop, Elin Sütiste, Anti Randviir, and others.

The Peircean school of the semiotics of translation has been very influential, especially to the Anglo-Saxon and the Scandinavian world. This school is based on Peirce’s fundamental claim that interpretation precedes translation. Thus, translation becomes a central part of the sign and semiosis constitutes a translation process (Petrilli 2003, p. 17). These statements seem to be embraced by Dinda Gorrée, Susan Petrilli, Augusto Ponzio, Bruno Ossimo, Ubaldo Stecconi, Ritva Hartama-Heinonen, and others.

The French school of the semiotics of translation is also important, though not widely known. It follows the translation typology of Jakobson, one of the founding members of the Paris School of Semiotics.¹¹ Quemada (1982, p. 5) claims that “in the perspective of the School of Paris, [the sign] is mainly a manufactured object,” therefore, I claim, decodable and translatable. Greatly influenced by Greimas, the

¹⁰ Lotman (2005/[1984], p. 206, 208) defined *semiosphere* as a “specific semiotic continuum, which is filled with multivariant semiotic models situated at a range of hierarchical levels” or as the “[...] semiotic space, outside of which semiosis itself cannot exist.”

¹¹ According to Alexandros-Phaidon Lagopoulos (2004, p. 159–160), it is a structuralist and linguistically based school. The area in which it is most purely semiotic and which is most scientifically solid is the theory of Algirdas Geimas. Nevertheless, there is another area of this literary theory which lies on the fringe of Semiotics (Bremond, Todorov, Genette, Barthes) which may be considered as a moderate structuralism.

Semiotic School of Paris was structured on a “Sociosemiotics as a theory for the production and the search for meaning in action” (Landowski 2009, p. 75). For this school, as John Lyons (1968, p. 50) observes, “each language is regarded as a system of relations (more precisely a set of interrelated systems) the elements of which—sounds, words, etc—have no validity independently of the relations of equivalence and contrast which hold between them.”

But does not that definition also encompass the translation process? I argue that this school lends itself most to applications in the area of the semiotics of translation, since it is not restricted by the theoretical considerations of the Peircean school of translation or the school of Moscow–Tartu. Although Roland Barthes has not referred explicitly to translation, his influence has been significant. The relation between language and image, and as such the transformation of the semiotic system of language to the semiotic system of image, has been studied and researched by this school. Moreover, several semioticians like Georges Mounin had pointed quite early to the dynamics of *intersemiosis* in translation. Although Mounin (1963, p. 16) does not use this term, he observes that “translation (mainly in the fields of theatre, cinema and interpretation) also comprises non-verbal and paralinguistic aspects”. The research fields of the French semiotic school of translation seem to have paved the way for scholars such as Mathieu Guidère, Paolo Fabbri, François Rastier, Carine Duteil-Mougel, Maurice Pergnier, and Herman Parret, to name but a few.

Eco has been influenced by all three aforementioned scholars. It is worth mentioning that his influence has divided semioticians into those who consider interpretation as translation, and those who consider translation and interpretation to be independent processes.¹² Eco, quite successfully I believe, made the translation process central to cultural communication. In the framework of cultural communication, semiotic systems coexist, cooperate, and get translated, since:

[c]ulture continuously translates signs into signs, and definitions into definitions, words into icons, icons into ostensive signs, ostensive signs into new definitions, new definitions into propositional functions, propositional functions into exemplifying sentences, and so on; in this way it proposes to its members an uninterrupted chain of cultural units, and thus translating and explaining them. (Eco 1979, p. 71)

We should stress the fact that during the past decades, a new trend has emerged within semiotics, namely that of audiovisual translation, based mainly on a number of works by Jorge Díaz Cintas, Pilar Orero, Henrik Gottlieb, Yves Gambier, Patrick Zabalbeascoa, Fotios Karamitroglou, and Dirk Delabastita, among others. These scholars have employed semiotics as a tool for the study and analysis of audiovisual translation, because audiovisual texts are multimodal as they require the combined deployment of a wide range of semiotic sources or *modes*¹³ for their production and development.

¹² This discussion has also been reflected in Greece. Giannis Lazaratos (2007, p. 200) adopts Eco’s position, even though he believes that the term *translation* may be substituted with the broad term *interpretation*. In my opinion, since in everyday practice the term *translation* is used in a broad sense to describe many acts of communication, it could also be used instead of the term *interpretation*.

¹³ According to Anthony Baldry and Paul J. Thibault (2006, p. 4), “different semiotic modes create different meanings in different forms according to the different expressive means they employ.”

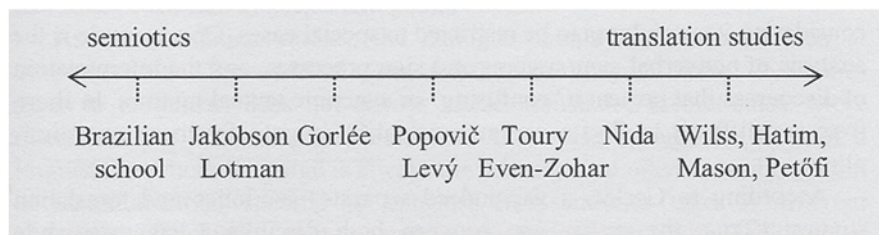


Fig. 13.1 The relation between semiotics and translation studies

Studying the relation between the fields of semiotics and translation studies and based on Gorlée’s approach Ritva Hartama-Heinonen (2008, pp. 31–32) presented a continuum (Fig. 13.1) that links pure semiotics with pure translation theory:

She initially refers to the Brazilian school, which approaches translation in a wider sense based on the notion of Jakobson’s intersemiotic translation. From the 1960s, with the poetical work of the de Campos brothers, the *cannibalist metaphor* has been used by the strong Brazilian translation studies community to stand for the experience of colonization and translation: the colonizers and their language are devoured, their life force invigorating the devourers, but in a new purified and energized form that is appropriate to the needs of the colonized people (Vieira 1999, pp. 98–99; Barbosa and Wyler 2001, p. 332). According to Else Vieira (1999, p. 105), for Brazilian school, translation is an operation in which it is not only the meaning that is translated but the sign itself in all its corporeality (sound properties, visual imagetics, all that makes up the iconicity of the aesthetic sign).

Hartama-Heinonen then presents semioticians who have adopted this approach, but also study problems of interlingual translation as Jakobson and Lotman do. Jakobson borrows a single element from Peirce’s theory, the idea of interpretant and the concept of unlimited semiosis. The notion of *semiosphere*, introduced by Lotman, is related at the same time to language and to translation, since “[t]he semiosphere complicated the intertwined web containing ‘text,’ ‘space,’ ‘culture,’ etc., with the idea of linguistic interaction and internal translatability” (Randviir 2007, p. 142).¹⁴

In the continuum, these scholars are followed by semioticians who study translation based on Peirce’s theory of the interpretation of signs. Gorlée is the main representative of this trend. Gorlée’s (1994, p. 226) central premise has been that a Peircean semiotics provides crucial insights that may enrich both our theoretical accounts of translational phenomena and our observation of the phenomena themselves. Gorlée (2004, pp. 103–104) introduces the term of *semiotranslation* that is “[...] a unidirectional, future-oriented, cumulative, and irreversible process, a growing network which should be pictured as a single line emanating from a source text toward a designated target text.” Then, there are translation scholars who draw on Russian formalism (Levý and Popovič). Jiří Levý, like other formalists, first viewed

¹⁴ See also Lotman 2005/[1984], pp. 208–213.

language as a semiotic system with synchronic and diachronic aspects. Levý's translation theory emphasized less the "meaning" or the "object being represented" in the second language, but the specific literary features of the text that make it literary (Gentzler 2001, p. 84). Anton Popovič's project begins where the work of Levý's (but also František Miko) leaves off. He believes that instead of prescribing a (translation) technique which eliminates losses and smoothes over changes, he accepted the fact that losses, gains, and changes are necessary part of the process because of inherent differences of intellectual and aesthetic values in the two cultures (Gentzler 2001, pp. 87–88). After them, there are translation scholars, such as Gideon Toury and Itamar Even-Zohar, who adopt a weaker semiotic approach, but whose work is included within translation studies. It is worth mentioning that Lotman's ideas have resonated well with Toury's and Even-Zohar's work, who drew considerable inspiration from Russian formalism, as Lotman did. Their contribution abandoned attempts at prescription, incorporated descriptions of multiple translation processes and the idea of systemic change which undermines static and mechanistic concepts, especially linguistics' concepts (Gentzler 2001, p. 109). Translation scholars whose work more or less diverges from semiotics, such as Eugene Nida,¹⁵ are closer to the end of the continuum. Nida's more systematic approach borrows theoretical concepts and terminology both from semantics and pragmatics and from Chomsky's work on syntactic structure (Munday 2004, p. 38).

Finally, there appear translation scholars whose studies have a slight influence of pure semiotics (Wilss, Petöfi, Hatim, Mason). Wolfram Wilss considers cognitive psychology the most appropriate framework for the study of translation as a cognitive activity. According to him, translation is a knowledge-based activity and, as with all kinds of knowledge, it requires the acquisition of organized knowledge (Albir and Alves 2009, p. 60). In the beginning of the 1970s, János Petöfi took a next step toward his proposed comprehensive text theory, and offered his "partial text theory" 1974, 1975, on the basis of which he built a pragmatic–semantic text interpretation process (Gorlée 2004, p. 36). Basil Hatim and Ian Mason paid extra attention to the realization in translation of ideational and interpersonal functions (rather than just the textual function) and incorporated into their model a semiotic level of discourse (Munday 2004, p. 99).

Hartama-Heinonen (2008, p. 32) stresses the fact that the semiotic end of this continuum reflects the historic tendencies of general semiotic research: initially, the influence of structuralism and its successors; later, Peirce's interpretative semiotics; and finally, eclectic theories and applications. Nevertheless, one can observe that the approaches of the French,¹⁶ Italian,¹⁷ and Spanish¹⁸ semioticians are absent from the above continuum. Also, intersemiotic translation is presented as pure semiotics, while interlingual translation is understood as a research field pertaining

¹⁵ It is worth mentioning that in the early 1980s, Nida characterized his approach as *sociosemiotic*.

¹⁶ Paris School of Semiotics.

¹⁷ For example, the work of Eco and Fabbri on the semiotic study of translation is seminal and cannot be overlooked.

¹⁸ Spanish researchers of audiovisual translation.

to translation studies, a position also shared by other scholars.¹⁹ I also argue that Heinonen's work has made an important contribution to the field of semiotics of translation by providing a very good theoretical framework. However, her work lacks application of the theory since it does not offer applied examples to comprehend his theoretical framework.

13.7 Research Fields of the Semiotics of Translation

The studies in the field of the semiotics of translation seem, I believe, to be of three types:

- Theoretical studies that link semiotics with translation studies. Such are the schools of Peirce and Moscow–Tartu, which seem to be the most prolific. The former approaches translation by means of semiotic hermeneutics, whereas the latter considers translation to be a cultural practice, as mentioned earlier.
- Studies which deal with the transference from a verbal to a nonverbal semiotic system (intersemiotic translation). This is a direction also followed by translation scholars who focus on the power of the semiotic system of the image. The semiotic system of image is a dimension that has also been stressed for quite some time by researchers working in visual culture.²⁰ Thus, Jeremy Munday (2004b, p. 216) mentions that “translation studies must move beyond the written word and the visual, and multimodal in general.” Mona Baker (1992, p. 42) also considers that translation by illustration “[...] is a useful option if the word which lacks an equivalent in the target language refers to a physical entity which can be illustrated, particularly if there are restrictions on space and if the text has to remain short, concise, and to the point.” We should add that tasks involving the translatability of a nonverbal semiotic system into another nonverbal semiotic system (intersemiotic translation without the use of language) are very rare.
- Studies that pertain to interlingual translation. These comprise studies on an impressively wide range of topics, such as:
 - a. The interlingual translation of *multisemiotic/multimodal texts*, i.e., texts in which more than one semiotic systems coexist. Patrick Zabalbeascoa (1997, p. 338) observes that no text can consist only of the semiotic system of language, as it necessitates some kind of physical support. More simply, we could say that nowadays a text can hardly be monosemiotic. As a result, the coexistence and synergy of semiotic systems is indispensable, and the production of meaning stemming from that process must be translated. As Petrilli

¹⁹ See Jean Peeters (1999, p. 17).

²⁰ John Walker and Sarah Chaplin (1997, p. 53) note that “those who point at the inadequacies of language in regard to visual experience should remember that most visual culture lecturers use illustrations to supplement their words. [...] It should be noted however that illustrations are themselves ‘translations’ and their accuracy of reproduction is always in question.”

- (2013, p. 118) characteristically mentions, “[t]ransposition, translation, transfer, intersemiosis, intertextual, interverbal, intelinguistic, interlingual, dialectic, dialogue: these expressions tell us that the sign can only subsist in the relation *among* signs and the modality of this relation is translation.”
- b. The translation of *connotations*. Barthes (1964, p. 130–131) claims that connotations are second-order semiotic systems, which means that they pertain to the level of ideology. Scholars such as Mounin (1963, p. 166), Newmark (1998, p. 93), Ballard (2003, p. 23), Nida and Taber (2003, p. 91–98), Nord (2005, p. 102), and House (2009, p. 31) insist that we should translate connotations as we translate denotations. Petrilli (2007, p. 335) also supports that “the problem of ideology should definitely be taken into consideration in a semiotic approach to translation.”
 - c. The interlingual translation of *semantic isotopies*. Ubaldo Stecconi (2009, p. 260) mentions that “in practice [...] translators routinely compare semiotic structures. Two texts—one the translation of the other—can be compared on various grounds, including lexical items, isotopies, or sense levels [...]” Greimas and Courtés (1993, p. 197) define *isotopy* first as designated iterativity along a syntagmatic chain of classemes which assure the homogeneity of the utterance–discourse. Every and any act of translation can be approached through the perspective of semantic isotopies in order to enhance a cultural understanding of the function of translation (Kourdis 2012, p. 115).
 - d. The use of *eye tracking* in the semiotic study of the translator’s choices in interlingual translation, as well as the reading paths in intersemiotic translation. It is worth mentioning that, according to O’Brien (2009, pp. 265–266), “while eye-tracking does not reveal all there is to know about how humans translate, it certainly adds a very rich dimension to the tools and methods we have for investigating this activity [...]”
 - e. The *quantitative equivalence* in interlingual translation. The term was introduced by Jacques Derrida (2004, p. 428), who claimed that for aesthetic purposes, the target text should be quantitatively equivalent with the source text. Eco (2003, p. 350) also says that “... we instinctively end up judging the adequacy of a translation in terms of quantitative relations between physical qualities as well.” This may be the reason why Nord (2005, p. 121) refers to nonverbal elements that are decisive for the process and product of translation and constitute serious restrictions on the task of the translator. Therefore, she claims that the captions/instructions in the target text should not be longer than the respective captions/instructions in the source text.
 - f. The role of the semiotic system of *graphism* and more especially of *typography* in interlingual translation. Eco (1992, p. 65) mentions that the code of graphics (shapes, special marks, lines, fonts) contributes to the production of meaning, as the graphic conventions acquire a different content according to their environment. This position is not adopted only by semioticians. Communication specialists stress the visual dimension of language, as “[...] verbal language can suggest particular qualities as a result of how it appears: in other words, writing is a form of image-making, too. It could be said to have its own paralanguage, as a result of ‘clothing’ the copywriter has chosen for it” (Goddard 1998, p. 16).

Thus, it is their relation and interaction that produces meaning and calls upon us to decipher them, and which we must take into consideration during the translation process. This position is adopted by many translation scholars as well. Thus, for Nord (2005, p. 88), the use of nonverbal elements (intratextual factors), such as indentations, chapter headings and numbers, asterisks, layout, illustrations, tables, initials, boldface types, and italics, are critical in the translation process and product.

The last two research areas, I believe, can be classified into the research field of *aesthetic equivalence* of translation. Both quantitative equivalence and nonverbal semiotic systems involve target text aesthetics. Usually, the reproduction of source text aesthetics is opted for the target text aesthetics basically to connote faithfulness to the source text. Furthermore, translation theorists such as Koller (1989, pp. 99–104) or House (2009, pp. 31–32) classify the effect of nonverbal semiotic systems into the field of equivalence, using different terminology though, i.e., *text-normative* and *formal-aesthetic equivalence*.

13.8 Conclusive Remarks

Though there are researchers who define the field of the *semiotics of translation* as a new discipline (Sütiste and Torop 2007; Torop 2008), as an *activity* (Toury 1980), as an *alternative* or *different perspective* (Snell-Hornby et al. 1999), or as an *approach*, Eco and Nergaard (2001/[1998]), I believe, that it should be considered an *approach*, a semiotically based approach to the translation process. The study of translation with the aid of semiotic tools renders this research field an area where different approaches converge one in which interdisciplinary approaches unfold, since semiotics per se is interdisciplinary. As Hartama-Heinonen (2012, p. 305) mentions “[t]he semiotic approach to translation first leads us to the sphere of texts and discourses [...] that presuppose the co-existence, interaction and even the confrontation of different semiotic systems and signifying practices. These systems, which reach beyond linguistic boundaries, manifest themselves in varying codes and combinations.”

We also notice that there is no established term of this field, but that there are many terms to describe more or less the same approach. Nevertheless, if we consider the fact that a large part of academic output in this area is produced by researchers of the semiotic school of Moscow–Tartu, it seems that the two dominant terms in English are *semiotics of translation* and *translation semiotics*.

The semiotics of translation seems to have been influenced as a scientific field by most of the semiotics schools. It is also clear that in the establishment of this field, the most influential figures have been Peirce, Lotman, Jakobson, and Eco, although of course more often than not ideas influence one another. Thus, for example, it is not surprising that Lotman considers translation as *dialogue* and that Eco speaks of *negotiation* in translation—and activity that falls within dialogue—as Eco wrote the introduction to Lotman’s book (1990), which greatly influences him. When Eco suggested his own typology of translation, though, clearly influenced by Peirce, he used Jakobson as his starting point.

The fact that studies addressing the translatability of nonverbal semiotic systems with other nonverbal semiotic systems are rare is indicative, I believe, of the influence of linguistic thought on the translation process. This is so, since many researchers do not accept the position that intersemiotic translation constitutes a type of translation.²¹ In my opinion, there is no good reason to restrict the study of translational phenomena to interlingual translation- a pure linguistic level.

13.9 In Lieu of a Conclusion

As a field of translation studies, the *semiotics of translation* constitutes an interdisciplinary approach to the translation process. It is interdisciplinary even within the framework of semiotics, as scholars often base their work on different semiotic theories when they study the translation process. The fact that most studies in the field of the semiotics of translation work on a theoretical level seems to me *paradoxical*, as it appears to be in contrast with the position that translation is a special case of semiosis, in other words applied. Indeed, the mere fact of speaking of the *semiotics* and not the *semiology of translation* indicates the influence of the Peircean school on the study of translation, even though Peirce did not propose a full-fledged theory of translation. Nevertheless, I believe that as a result of the above, the semiotics of translation runs the risk of becoming entangled in a theoretical level of thought which is not compatible with a primarily applied practice like translation. That is why I believe that this research field can be considerably enriched by the French school of semiotics, which has a long history of applied semiotics.

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²¹ For instance, Jean Delisle et al. (1999, p. 188) consider translation only as a procedure of interlinguistic transfer involving written documents.

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Evangelos Kourdis is an Assistant Professor in translation semiotics at the Department of French Language & Literature, Faculty of Philosophy, Aristotle University of Thessaloniki. He received a PhD in theories and sciences of language and communication from the Faculty of Philosophy, Aristotle University of Thessaloniki. Evangelos is the national representative of Greece to the International Association for Semiotic Studies, a vice president of the Hellenic Semiotic Society, and a founding member of the Hellenic Society for Translation Studies. Also, he is the delegate in Greece of the Société d'Etudes des Pratiques et Théories en traduction (SEPTET, France). Evangelos is an international collaborator at the Semiotics and Visual Communication Laboratory of Cyprus University of Technology, and has published scientific articles in referee journals such as *Signs*, *Lexia*, *TRANS*, *Discourse and Interaction*, *Translation Studies in the New Millennium*, *Signes*, *Discours et Sociétés* etc.

Chapter 14

Inter-semiotic Translation and Transfer Theory in Cinematic/Audiovisual Adaptations of Greek Drama

Irini Stathi

14.1 Introduction

More often than not, when people or critics watch a film based on a pre-existent literary or theatrical source, one of their first thoughts is to compare the film to the original source. Moreover, most of the time, the comments favour the original as the cinematic version scarcely conveys the spirit and the literary power and dynamic of the original. The same discourse is well known to those who make translations and very often people declare that a translation is never equal to the original because “languages differ from one another” (Even-Zohar 1981, p. 1). It is well understood that both in translation and in adaptation of a text a multitude of procedures take place through which a text can be transformed in a new one, conform to the spirit and culture involved in the transfer procedures. The meaning of a text means both “content” and “style” and very often “form” (the particular form each artist chooses infects the content of the new work when adaptation is performed).

However, when we speak about adaptation from a sign system point of view, such as literature or theatre, to another sign system like the cinematic one, the term translation can maintain the same value as when we treat the translation from one language to another. The cinematic expression, according to many semioticians such as Metz, is a particular language, a “language without langue” (Metz 1974), within a sign system that can be examined under the lens of the so-called transfer theory (Even-Zohar 1981).

Roman Jakobson distinguishes three ways of interpreting a verbal sign: “it may be translated into other signs of the same language, into another language, or into another, nonverbal system of symbols. These three kinds of translation are to be differently labeled” (Jakobson 1987). Jakobson uses the terms “intra-lingual”, “interlingual” and “inter-semiotic translation” for it is one of those types, and es-

I. Stathi (✉)

Department of Cultural Technology and Communication, University of the Aegean,
Mytilene, Greece

e-mail: i.stathi@ct.aegean.gr

pecially calls “transmutation” the third one and explains it as an interpretation of verbal signs “by means of signs of nonverbal sign systems”. What Jacobson calls “inter-semiotic translation” is the notion, which permits us to find relations between translation studies and other disciplines and it is particularly relevant to cinematic adaptation as inter-semiotic translation. Therefore, we consider translation studies as a discipline that (due to its capacity to encompass inter-semiotic translation as one of its objects) gives a unique perspective on topics that usually dealt within the framework of other disciplines (literature, theatre and film studies). Under this light then it is possible to examine a multitude of situations on the transfer from theatrical to cinematic language, as well as the specific semiotic regime that occur in such transformation. In this chapter, we apply those ideas to an analysis of cinematic adaptation of Greek drama (Pasolini, Cacoyannis, Dassin, etc.).

The cinema has been interested in Greek drama since its earliest days and there is a wide range of films, which engage, openly with narrative and performative aspects of Greek tragedy (Michelakis 2013). Screen adaptations of the ancient tragedy have served various purposes: proving the relevance of the Greek tragedy to our times, manifesting the ability of the cinema to cope in a creative way with works originally written for the theatre scene and obtaining what Bourdieu called “cultural capital” (Bourdieu 1979). To analyse these adaptations, the following discussion also draws on theories which have been developed outside semiotic studies and deal specifically with the relationships between cinema and theatre in general and the theoretical discourse developed in the early times of the cinematic medium (i.e. Canudo, Balázs). The use of such theories in combination with Even-Zohar’s transfer theory is in line with his claim (Even-Zohar 1990a, p. 74) that it is only in the framework of a general theory of transfer that particular procedures pertaining to a specific form of transfer can be discovered. To examine how modern filmmakers deal with the ancient Greek sources, a reference is made to Holmes’ assumptions regarding the translation of texts created in the past (1988b). Rather than indulging in literary, theatrical and cinematic issues as such, the focus is therefore on cinematic adaptations of some Greek tragedies (Cacoyannis’s *Electra*, Pasolini’s *Medea* and *Oedipus Rex*, Jancsó’s *Electra, my love*, Dassin’s *Phaedra*) as a case of inter-semiotic and inter-temporal translations.

14.2 From Theatre to Cinema

As translation studies and Even-Zohar’s transfer theory do not deal specifically with the relations between cinema and theatre, an additional theoretical framework is needed. This chapter relies on the works of Nicoll (1936) and Beja (1979) which seem to retain their validity despite the time that elapsed since their first publication.

In performing a theatrical play, either classical or other, the starting point for both the theatre director and the filmmaker is the original written text. The first turns it into a stage performance, and the second into a film or other audiovisual work. Every performance, theatrical or cinematic, implies an interpretation of the

play, according to the directors' thoughts, ideology or the suggestions of the era that the performance takes place. The very fact that living actors read the dialogue, using intonation and body language, involves interpretation—theirs or the director's—even if the script used is very close to the original play. The interpretation of a theatrical play probably involves models and norms pertaining to the target system. The cinematic performance is bound to differ from the theatrical one because the two rely on different repertoires. The question that arises is whether there are any essential differences between the two media, or art forms, which give rise to the different models and norms. Both Nicoll and Beja retain that such differences do exist.

Cinema shares two important constituents with theatre: the *mise en scène* (the term referring to everything situated in front of the audience or camera: setting, actors, costumes, etc.) and sound (dialogue, music, various noises). However, it differs from theatre in its use of photography (including the point of view of the camera, the camera movement from place to place, the choice of black and white or colour and so on). In the process of editing, it is possible to affect the final product on the level of the form or content also by manipulating the order and combining the shots (Giannetti 2005).

Theatre, on the other hand, as every performance has other capacities, is a live and one-time occurrence; the actors can improvise and communicate with the audience. However, the most significant difference between cinema and theatre is in how they depict reality (Nicoll 1936). In a film, an effective illusion of the real world is created. The camera can exit to real places, shoot real people, real and large objects or magnify very small things; in a word, it can recreate real life. Cinema, in that sense can make even an imaginary world look real. In theatre, the creation of an illusion of the real world, apart from being difficult, is not necessary as the viewer uses the theatrical convention that helps them to accept the performance as it is. Reality cannot be brought to the stage and the audience knows that what they are seeing on it is a scheme and sometimes an abstraction of reality.

The greatness of the theatre lies in this "limitation". The characters are easily understood as types, and the events as allegorical acts. Not hindered by the concrete and specific, theatre can give expression to the most abstract and general ideas. For example, *Oedipus Rex* can be performed as a play about a family tragedy or a psychological drama. In cinema, realism may easily shift the focus to questions such as who was Oedipus, where and when did he live and so on. When one tries to answer these questions in film performance, then the work to do is to recreate the whole play and reinterpret its meaning. This procedure involves a kind of translation of the original text in order to adapt it to this new interpretation.

14.2.1 Inter-semiosis in Film Adaptation

As noted before, Roman Jakobson has taught us that translation can take place between distinct languages (inter-translation), within the same language (intra-translation) and between two systems of signs (inter-semiotic translation; 1963).

His third type of translation is of particular interest to us, for it involves the conversion of a particular system of signs (ancient drama as text and performance) into a different configuration (cinematic representation).

Musical, artistic and cinematic adaptations (even computer programming) hinging on the relationship between two distinct modes of representation, all enter into this category. Inter-semiotic translation may involve the conversion of a tragedy into different forms of expression: for example, *Oedipus Rex* has been converted in a variety of media such as a libretto (Cocteau's *Oedipus Rex*), an opera-oratorio (Stravinsky's *Oedipus Rex*), a painting (Max Ernst's *Oedipus Rex*, 1922) or most commonly a film (Pasolini, Saville, Tomm and others). Unfortunately, these artistic representations are typically viewed as finished products and the process of transformation, which is an essential part of their production, is often overlooked.

14.3 Greek Drama into Cinema

The adaptation of Greek drama in cinema both from Greek and foreign directors is characterized by creating, on the one hand the impression of antiquity on all levels of cultural life and on the other by interpreting the wider mythological framework on which the tragedy is generally based. To speak about a cinematic Greek drama canon, which appears by studying the films based on Greek drama, is quite difficult. The Greek director Cacoyannis for example uses strictly the tragedy's text as such (*Electra*, 1960, *Trojan Women*, 1971 and *Iphigenia*, 1977) and his style is obviously an attempt to transfer the myth's power and the text's dynamics in a well-recognized cultural and physical environment in Greece.

All diverse styles the adaptations of Greek drama were nevertheless bound by the same basic norms: "wild" representation of the space and attitudes and sometimes experimentalism, which introduces new thoughts on the text's dimensions. The plays were usually set in a temporal period (often mythical) sometimes falling into historical periods and precise political and cultural events: this is Angelopoulos's paradigm in *Travelling Players* (1975) or Jancsó's *Electra, my love* (1974). The affinity to the source is manifested in the decision not to reduce the original plays, as cinema directors usually do, but in the intention to interpret the meaning of the drama into the current life. Cinematic adaptations of Greek tragedy frequently modernise the source on all levels, either because the transfer to another medium encourages drastic deviation from the source or due to economic considerations: modernisation can enhance the film's appeal to a contemporary audience. The very modernised adaptations preserve only the plot with some of the meanings and messages imbued in it. The cases of Jules Dassin's *Phaedra* (1962) and the already mentioned Angelopoulos's *Travelling players* are characteristic. In fact, the plot itself generally changes to fit contemporary values and ideas. This strategy allows the filmmakers to interpret the past in the light of the present and examine what has changed since the original text's time on the backdrop of what has not changed.

14.3.1 *The Cinematic Greek Drama as Cultural Capital*

As a process of encoding and decoding, film adaptation of ancient drama, much like translation fulfils a similar task. By taking the drama to the screen, film adaptations widen the scope of their spectatorship offering them greater visibility and performativity. Metaphors are changed into images that are more comprehensible, idiomatic expressions are replaced by explicit phrases of the real life and cultural rite is explained or transposed in an effort to make them more accessible to the audience. In the process, adaptors cannot ignore the background of the target culture and must “negotiate” the interaction of the audience with the source text. The trade-off between two elements—two historical periods, two cultures, two media and/or two languages—is at the core of film adaptation. Whether the transfer takes place within the same culture or between different cultures, displacement in time and/or space occurs.

Cultural references and metaphors are sometimes difficult to transfer to the screen, and they undergo significant changes during the conversion of a play into a screenplay—the first transformational step leading to the production of a film. But when referring to Greek drama, the cultural references and metaphors move to another level: the significance of the play pre-exists in the mythological sphere.

14.3.2 *Inter-semiosis in Michael Cacoyannis*

Cacoyannis between 1962 and 1977 and Pasolini in the late 1960s, inspired by classical Greek tragedies, gave some excellent paradigms of cinematic transfers of ancient texts. Cacoyannis made the films in the form of a purely literary transfer of the texts but he uses a cinematic *mise en scène* with *Electra*, *Trojan Women* and *Iphigenia*, where the intention is to maintain the force of the ancient text and original dialogues and adapt its meaning in a contemporary condition. Pasolini, on the other hand made his *Oedipus Rex* (1967), *Medea* (1969) and *Notes for an African Oresteia* (1970) in another way, and it is clear that in such a case the task of transcoding from tragedy to cinema looks like a very interesting experiment for both the original and the time distance (about 2500 years) between the birth of the texts and the film version, and for the will of the director to use those works as keys for the interpretation of contemporary reality. The tragedy’s meaning in that sense is transformed in a kind of inter-temporal cultural capital.

In his book *Notes sur le cinématographe* (1975), Robert Bresson refers to the “terrible theatrical habits” (Bresson 1975, p. 76) and how they interfere with film work, when transferring a theatrical play onto the screen. However, that statement is not an absolute rejection of the relationship between cinema and theatre. It is a reminder of how the movie can be “betrayed” when the director succumbs to a mere reproduction of the theatrical play in the film, without considering the different languages the two expressions use. When the cinema and theatre merge creatively, this does not occur because the director’s sensitivity creates something original through

the recording lens. Cinema exists as art because it creates something new in an authentic way and not because it merely adapts a pre-existing model.

Cacoyannis, for example, demonstrated a particular ability to translate the tragedy by using aesthetic and narrative patterns of the whole Greek culture (MacKinnon 1986), particularly emphasizing the sense of myth, with an anti-theatrical but effective chorus dressed uniformly in black and alluding to a certain modern Greek habit. His purpose is not to represent a convincing version of Euripides's spirit (he avoids a "happy end" and instead provides a dramatic resolution in today's sense of the term).

The transfer of ancient drama by Cacoyannis's cinema was a distinctive artistic intervention in the world of the seventh art at least in terms of later development of Greek cinema. Clearly, the introduction of new ways of highlighting such projects by means other than those of the theatre, was a kind of avant-garde which sometimes has been accepted and sometimes not. But seeing those adaptations under the lens of translation theory is something other, above mere critical observation.

The film is obviously very far from any theatrical-like representation, however maintaining the spirit of Euripides's tragedy, but moves on a line of abolishing the sense of time, making the whole film an inter-temporal—even contemporary—tragedy. Cacoyannis underlines that fact saying:

I didn't try to recreate *Electra* within the time, but to bare tragedy of the time. I didn't search links between the ancient and the modern Greece [...] but the essential identity [...]. In this sense the film has almost everything in this piece of modern Greece that looks intertemporal. (Cacoyannis 1963)

It is obvious that Cacoyannis works according to a theatrical approach on the original text and the use of the cinematic medium becomes a means not to set the tragedy in current life in terms of nowadays but in terms of a form which is always recognizable. This pictorial translation of such an important tragedy amounts to a brilliant utilization of the cinematic device to transmute the gold of verbal poetry from one art form (theatre) to another (film). Where previous attempts to make movies from the Greek classics were generally mired in the heavy going of too much rendering of the original poetic dialogue, this film avoids that dangerous pitfall by going to the other extreme and swinging wide off a form of presentation that is physically hitched to the structure of the stage. Cacoyannis knows very well the difficulty to "photograph" words, and also knows that film is less word and more image; he knows that a medium as visual as motion pictures must not place too much dependence on the ear but on the eye. Also, he sees that the contours of the drama in Greek tragedies are so massive and elemental that they may be suggested and impressed upon the eye with a proper and tasteful presentation of graphic images. Thus, he has made his *Electra* a powerful address to the eyes, by transforming the word into a visual sign without downgrading the power of the poetic word. So a part of the words is emphasized by the use of outdoor settings where the tragedy's text is confronted with the great sweeping vistas of rugged landscape and eloquent stretches of sky.

Cacoyannis thinks that in a popular film, there has to be a love interest and a plot which maintains the interest of the audience more intensely. Many of the French

reworking of Greek tragedy adds this, as Racine did in his *Phèdre*, and Dassin retained this in his film, *Phaedra*. Many operatic versions of the classics add lovers that were not there in the originals. This transmutation of the plot infects the *mise en scène* and at the end the whole meaning of the opera. Therefore, the transfer is a new adaptation operated on more than the textual level: aesthetic, etc. There is much that could be done with the camera that could not be done with words, and alterations made on the text can transform the meaning of the tragedy and reduce it more comprehensibly in terms of current reality. This is the interpretation, which Michalis Cacoyannis mostly attempts in his *Iphigenia*, the third film based on the Greek drama.

14.3.3 Pasolini's Cultural Transfers

Pasolini made his three films based on tragedy and myth in which the literary dimension has little to do or nothing, aiming to structure everything on an “anti-literary” dramaturgy in which other expressive codes such as sound, image, gesture, music, costumes, matter much more than the text itself. From this point of view, his three mythological films marked a fundamental break with the classicist clichés still prevailing in those years.

The first observation is that in these three of Pasolini's films, there are elements of extreme loyalty with respect to the literary model (I am referring to certain dialogues or certain narrative sequences) but alternating with innovative elements of the actuality that refer to its cultural–ideological universe. We can identify four directions regarding the work of transcoding which deal respectively with the ideology of the director, the actuality of the themes, the narrative forms and the techniques of translation (he translates the ancient text into a modern language—Italian). At this level, the inter-semiotic translation often becomes closely interwoven with interlingual translation through immediate visual signs such as dress and décor (the play is transferred in visual signs into both the theatrical performance and the cinematic adaptation).

These cultural transfers, often achieved through actors' costumes, tend to render the translation invisible and, to borrow a term from Lawrence Venuti, to “domesticate” the source text in order to: “give the viewer unobstructed ‘access to great thoughts’, to what is ‘present in the original’” (Venuti 1997, p. 5). The purpose of the invisible translation is to maintain a natural effect: “producing the illusory effect of transparency that simultaneously masks its status as an illusion: the translated (con)text seems ‘natural,’ i.e. not translated” (in our case adapted in a new context; Venuti 1997, p. 5). But the invisible translation also deprives the targeted audience of its cultural abilities since the new text or film is presented as an intertemporal product. In the case of Pasolini's films, the domestication of an ancient text entails the recycling of primitive ideals such as barbarism, magic and solidarity in tune with the moral of Western thought, religious beliefs and cultural challenges of the new audience.

Once we are aware of the relationship between translation (Pasolini translates by his own the text of the tragedies he use in his films) and adaptation (he adopts a specific *mise en scène* which deviates from the conventional adaptation of tragedies known in the cinema), we can more easily perceive how the long tradition of translation studies constitutes a valuable tool in the aesthetic evaluation of film adaptations.

In this, classical Greece with its mythological tradition is a fundamental moment for Pasolini, what he proposes is the image of a primitive Greece or rather barbaric, therefore, with the clear rejection of any neoclassical idealization. Greece is not the homeland of balance, serenity, rationality but of the great emotions and instinctual drives. From this point of view, Pasolini is placed in a line of renewal of classical studies drawn from Nietzsche in the twentieth century and has achieved important results thanks to the contribution of disciplines such as anthropology and psychoanalysis, highlighting the darker aspects of the primitive Greek civilization. The ancient myth in particular, conveyed by the texts of the tragedians, performs the principal function to polarize the tensions and conflicts acting as a touchstone for the present exemplary. In addition, the myth tends to assume a horizon of meaning that goes beyond the values of rationality and history. The Greek myth for Pasolini is made up mostly of “barbarism”; barbarism is an important word in Pasolini’s lexicon, which he often used in speeches and interviews. What he exactly meant by this term is explicit in an interview with Jean Dufлот in 1969 in which he says:

The word barbarism—I confess—it is the word to the world that I love more [...]. Simply, in the logic of my ethics, because barbarity is the state that precedes civilization, our civilization: that of common sense, security, a sense of the future. It’s simply the expression of a rejection, anguish ahead authentic decadence generated by the binomial Reason-Pragma, the two-face god of the bourgeoisie. (Pasolini 1983, p. 87)

In other words, the world of the ancient myth is a reality perceived as an archaic ritual, dominated by instincts, as a prelogical and rational universe, hieratic, in opposition to modern civilization, dominated by capitalism, consumerism, etc. It is clear that behind this interpretation, there is also a substrate of romantic and decadent, which incidentally is an essential component of Pasolini’s thought (Fusillo 1996).

In *Oedipus Rex*, the category of barbarism is translated into the ancestral breaking of taboos, such as patricide and incest, which Pasolini presents in psychoanalytic terms as universal drives. In *Medea* is the figure of Medea/Callas to represent a world—wild and primordial—that is violated by the pragmatism of the rationalistic Greek Jason. In *Notes for an African Oresteia*, barbarism is embodied in today’s (or rather the 1960s) with its miseries, its wars and its difficulty to start the process of modernization. In short, we can say that the myth is offered to Pasolini as a timeless language very effective to speak metaphorically of his “true” subjects: the peasant and contemporary capitalism and that allows him to recall the most archaic strata of Western culture or the deepest levels of the human psyche.

Now analyzing in more detail the three films in this perspective, we can individualize the various aspects Pasolini uses in order to underline this tendency. For example, the setting chosen has nothing to do with the typical Greek setting as described in the Greek tragedy, but it is African landscapes, especially in

Morocco. The director transmits thus the idea of an arid landscape (seemingly to Cacoyannis' idea of the use of an evenly arid and desert physical setting), sunny, archaic, which corresponds precisely to a vision of a barbaric place and a primitive civilization.

A similar argument can be done about *Medea*: Here, the physical setting plays a key role. To give a visual representation of the mythical Colchis, *Medea's* homeland, Pasolini chose the suggestive and "lunar" landscape of Cappadocia (in Turkey). This landscape defines the "barbarian" world par excellence of the oriental sorceress *Medea* (Pasolini 2001, p. 1212). The music (popular music, oriental, Japanese ancient sacred music, and Iranian Tibetan and Japanese love songs) helps to create an atmosphere distant and archaic. But it is the deep sense of alienation and irrelevance that emanates from the protagonist that gives the idea of a character "barbarian" par excellence. *Medea/Callas* always has hieratic poses, speaks very little and presides over the bloody rituals of human sacrifice enough to create feelings of discomfort and fear.

The approach in *Notes for an African Oresteia* is quite different, in the sense that the reference to the tragedies of Aeschylus's trilogy is only just evoked and therefore very unstable. Pasolini runs between villages of contemporary Africa (Uganda and Tanzania) in search of characters to choose from for his film about the myth of Orestes and so builds a modern discourse on Africa, on the problem of how to transform a civilization still tribal and traditional into a modern society and industrialized without being lost forever in original cultural tradition.

On the basis of certain Marxist interpretations of the work of Aeschylus (George Thomson), and after the previous experience of *Oresteia's* translation that Pasolini himself made in 1960 for the theatrical representation by Luca Ronconi in Syracuse (Bierl 2004, pp. 62–69), Pasolini uses the classic mythological filter—to report how a false transition to democracy took place in some African countries. In the figure of Orestes, who returns to his homeland as an avenger and liberator, the director embodies the young African intellectual elite that has formed abroad, in France or in the Anglo-Saxon countries, and could return to his homeland to change the political and social structures.

14.3.3.1 Transferring Myth into Actuality

Another direction in reading Pasolini's films is related to the "actualization" of the mythological events narrated. This is also an essential instance found in all the three films in question. In Pasolini's films, mythological semiosis always occurs at two aspects related to the content. One is adherent more or less to the model of Greek drama, and it gives the content: it is the space of the word, the drama. The other is freely invented along the lines of the mythological lexica and, in general, it is the part where the background, which gives a greater understanding of the plot, is narrated. This section is used to create a context of universalization and actualization of the mythical events. This space is dominated by the poetics of the sacred silence, gestures and rite.

In the case of *Oedipus Rex*, the actualization of the story is suggested by a modern setting: the opening sequences (the prologue) and the final ones (epilogue) were made in Italy in the twentieth century as well as the actuality or universality of the message. The scenes of the prologue, which are almost all without words or dialogues, show the birth of a child in a middle-class family in Northern Italy of the 1920s. Here, the “translation” refers to the equation of the tragedy’s prologue to a figurative representation. So we see in the way of the prologue the child’s laugh, its play and its taking the first steps, and the mother who breastfeeds softly. He sees his father, an officer in uniform, who it is understood suffers from jealousy to the strong bond between mother and settled child. There is no doubt that Pasolini wants to allude to the famous Freud’s theory of the Oedipus complex, a perspective that is confirmed by the fact that the same actress, Silvana Mangano, plays the part of the modern mother in the prologue and the mythological mother (Jocasta) in the myth’s narrative itself (Biasi-Richter 1997).

Completing the prologue, the viewer does jump immediately into the mythical past and here Pasolini recounts Oedipus’s adventures according to the canonical *vulgata* of the Greek models, including the patricide and incest committed unknowingly. But just where the story should end, after the suicide of Jocasta and Oedipus’ self-dazzle, Pasolini inserts a short appendix, an epilogue of a few minutes, where we see that child who was just born in the prologue now as an adult wandering blind in the streets of Bologna, accompanied by a boy and playing the flute. This choice helps to give a meaning to the hermeneutic perspective followed by the director. Oedipus is a symbol of Western human condition, of men and women who do not want to see what you really are, who prefer to turn a blind eye to the truth until the inevitable catastrophe. Pasolini writes in a note:

This is what inspired me to Sophocles: the contrast between the total innocence and the requirement of knowledge. It is not the cruelty of life that determines the crimes, but the fact that people do not try to understand the history, life and reality. (Pasolini 1967, p. 366)

In *Medea*, there is no immediate transposition of the myth in terms of contemporary life. The whole story takes place in the timelessness mythology. However, it is very important that Pasolini refers in addition to Euripides’s text to the age-old tradition of remakes of the drama (from Seneca to Corneille, from Cherubini to Grillparzer, from Anouilh to Alvaro), even to modern sources, i.e. to scholars of anthropology and ethnology such as James George Frazer, Lucien Lévy-Bruhl and Mircea Eliade that Pasolini had read with great interest and whose theories on the ritual seeks to put into practice in the film (the entire opening scene of a human sacrifice is based on descriptions of rituals in the treaties of Frazer and Eliade; Caiazza 1995, p. 178). In this sense, the transposition on the screen of the tragedy goes through a multiple reading of the myth firstly and the tragedy secondly. Additionally, the actualization of the myth is, as we have seen, a key element of the *Notes for an African Oresteia*. Here, Pasolini shows us the real Africa, with the atrocities of the tribal wars, poverty and misery, the dignity of the people, the presence of rituals and religious beliefs (Pasolini 2001, p. 1199).

On the other hand, the director's view transforms this reality seen in each character, gesture, object, etc. of metaphorical reference to the myth. So the civil war in Biafra is assimilated to the Trojan War, the trees of the savannah appear as an image of the furious Erinyes, and the shooting of a rebel as the murder of Agamemnon and a ritual dance in Tanganyika as the transformation of the Furies in Eumenides. In other words, the African reality is described by the observed reality and becomes a projection of his poetic imagination (Bonnano 1993).

14.3.3.2 Narrative Sections

Pasolini uses a particular articulation of the plot, divided in "narrative sections" and based on basic changes made in respect to the originals. Pasolini in *Oedipus Rex* reworks Sophocles's model (and the same can be said for Euripides's model in the case of *Medea*) proceeding according to a "means of expansion" or what Genette calls "analytical expansion" (Genette 1982, pp. 298–302) which consists of the extension of the narrative through the addition of episodes that serve to recover the prehistory of the drama. Pasolini expands the plot beyond the events that Sophocles's model represents, embracing the entire saga in chronological order. In fact, in Greek tragedy, the drama begins when the events are almost over and only the last part of the complete story appears in the plot, which is the discovery by Oedipus of his past parricide and incest. In Pasolini, the diachronic dimension flows linearly and the visual representation gives all the elements of the story that were only mentioned or evoked in the text of Sophocles, according to a procedure that is found also in other modern remakes of Sophocles's text such as those of Von Hoffmannsthal's *Oedipus the King* and Cocteau's *Oedipus Rex*.

It is not true that between Pasolini's film and Sophocles's text there is only "a vague debt on the narrative-mythological level" (Aronica 1987, p. 3). The director reconstructs and readjusts the subject in the light of his poetry, of a certain autobiography never concealed and on specific issues of his time, as we have seen, but without betraying the substance of the words of the original Sophocles. And it is also necessary, among other things, to keep in mind the gap that exists between the screenplay and the actual completion of the film. The screenplay is still very close to the Greek model of the tragedy, while for the actual film Pasolini made further cuts and reductions. Even on a hermeneutic level of Pasolini's proposal to make Oedipus an innocent victim of fate, it is not at all incompatible with the reading of Sophocles's text.

14.3.3.3 Translation Techniques

To understand the transposition of Greek tragedies into films made by Pasolini, it is necessary to open a parenthesis on Pasolini who was an important translator of Greek and Latin. His knowledge of the classical languages did not have to be much more than a basic knowledge, but in 1960 he translated the *Oresteia* (Einaudi, 1960)

for the memorial staging of the tragedy by Luca Ronconi at the ancient theatre of Syracuse and subsequently made a version of Plautus' *Miles Gloriosus* in the vernacular Roman (under the title *The Vantone*, Garzanti, 1963). Many scenes of *Oedipus Rex* and *Medea* are based on translations of the verses of Sophocles and Euripides. The impression is that Pasolini's approach intends to express a "poetic" translation paying special attention to the performative aspect, meaning the use (theatrical or cinematic) of the translated text, which implies a very different methodological basis with respect to the translation intended for reading.

Furthermore, such a technique is the most appropriate translation for a "poetic" cinema as Pasolini wanted. This is the reason why Pasolini's translations, though not always literal, with cuts and sometimes even with errors, in general capture valences of meaning inherent in the original text, which other more traditional translations fail to grasp (Pasolini 1960, pp. 1–3). From this point of view, the production of Pasolini as a translator can be compared to that of Salvatore Quasimodo with reference to the Greek lyric poetry. Pasolini deliberately renounces the solemn and vibrant tones, and looks for a language as much as possible conversational, fluent, modern, that retrieves the "civilian tone" of the source texts, which is more appropriate for his filming style. In short, rather than translation it would be appropriate to talk about creative remakes or makeovers of both the myths and the tragedies. As Paduano notes,

The use of Sophocles's text by Pasolini is rich, deep and affectionate as it had been his translation of *Oresteia*, to the point that, despite the drastic cuts made in accordance with a filmic structure based much more on images than words [...] I believe that we are entitled to propose the term 'translation' with all the hermeneutic and philological liability it entails. (Paduano 2004, p. 79)

Pasolini's film adaptations should be seen and studied as a hybrid product resulting from the blending of two or more authors, cultures and audience, since it is, by definition, a dynamic and interactive process. According to Millicent Marcus,

[...] the successful adaptation performs the process of its transit, makes explicit the way in which the literary work is passed through the filmmaker's imagination, the new cultural context, and the technology of the medium, to emerge as a full-fledged, autonomous retelling of the tale. (Marcus 1999, p. xx)

Pasolini's films are, finally, a kind of "paraphrases" of the original ancient texts. But at crucial moments in the scenes where there are conflicts more exasperated and violent passions, then there the director takes on the Greek text as departure and remodels it in a poetic way with striking effects, never prosaic. The retelling of the story underlies the medium but respects the spirit of the original's interpretation.

14.4 From Inter-semiotic to Inter/Intra-Lingual

Electra is probably one of the tragedies that have been mostly adapted to the screen. It seems that most of times this tragedy was chosen for its worldwide visibility and strong references to the current reality. The broad array of adaptations ranging from

the faithful to the time and space Greek adaptations to others like the Hungarian *Electra* by Miklós Jancsó or the Greek adaptation by Theo Angelopoulos in *Traveling players* are all transpositions taking place in a highly politically marked period where the myth and the sense of tragedy becomes a vehicle for the interpretation of the political and ideological coincidence. *Electra* in these two films is used to support the assumption that film adaptation should not be reduced to “inter-semiotic translation” but also ought to be assessed in terms of “intra-lingual” and ‘interlingual’ transfers. The analysis of various adaptations and transpositions of *Electra* reveals how the contrastive filmic techniques deployed by the filmmakers often coincide with specific translation techniques such as the “visibility” or “invisibility” of the translator developed by Lawrence Venuti, as well as censorship. It must be noted that the term transposition is used here to refer to a cinematic version displaced in time and/or space, while the generic term adaptation designates an adaptation faithful to time and space. When the transposition takes place within the same culture but in a time frame different from that of the source text, the process of transformation becomes equivalent to an “intra-lingual translation” and assumes that the writing of a classic play is done in the language used in the source text. For instance, a Greek cinematic version of *Electra* is considered as an “intra-lingual translation” whereas a Hungarian (Jancsó) or American (O’Neill’s/Nichols’s, *Mourning Becomes Electra*) adaptation of the tragedy could be also considered as an “interlingual translation”.

One striking example of a successful intra-lingual transfer is well illustrated by Theo Angelopoulos’ adaptation of *Electra* and the myth of Atreides. In this adaptation, Angelopoulos draws parallels between the myth and its revival in the twentieth-century societies, and shows how history repeats itself. He goes further than any other director as he reconciles fiction and reality using a distinctive narrative technique, mixing theatre and cinema. Transposing *Electra* to an oppressive atmosphere after the German occupation in Greece during the Second World War, the filmmaker builds his motion picture on the concatenation of sequences showing alive reading of the tragedy and the myth, despite that it is never followed by verbatim scenes taken from the source text. Angelopoulos’s modernist approach to film adaptation makes the process of transformation visible to the audience and suggests a pedagogical approach to literary reading, consisting in comparing the tragedy to cinema. In the various scenes where *Electra* appears as a modern woman who takes the burden of history, Angelopoulos displays an intra-lingual translation in the making as this *Electra* retells the story in simple words easily understood by the audience.

In this way, the Greek director highlights the hermeneutical process at the core of film adaptation by breaking the process into fragmented scenes belonging to different time periods. This technique enables Angelopoulos to achieve a dialectical exchange between myth, tragedy and cinema, showing that: “to interpret a text is not to give it (more or less justified, more or less free) meaning, but on the contrary to appreciate what plural constitutes it” (Barthes 1974, p. 5). The dialectics at play between different media appearing in the film fosters the active participation of the audience, who must reconstruct the story of the character of *Electra*, using bits and pieces from various sources. The filmmaker challenges spectators to decode the adaptive process

through their active participation. By making the process of adaptation visible, Angelopoulos illustrates in a certain sense Lawrence Venuti's claim that: "translation can be studied and practiced as a locus of difference, instead of the homogeneity that widely characterizes it today" (Venuti 1997, p. 42). The conceptualization of translation or film adaptation emphasizing their differences is a significant step toward acknowledging film adaptations as autonomous works of art whose purpose is to communicate a message in a code understandable by the target audience.

Problems associated with the reception/perception of a text by a foreign audience (interlingual translation) complicate the process of adaptation, as they relate to the transfer of cultural elements unknown to the target audience. The philosopher Friedrich Schleiermacher summarized interlingual translation as follows:

[...] either the translator leaves the writer alone as much as possible and moves the reader toward the writer, or he leaves the reader alone as much as possible and moves the writer toward the reader. (Biguenet and Schulte 1992, p. 42)

The first strategy focuses on the target audience and its ability to absorb a foreign culture while, in the second instance, the translator brings the reader to the text and the emphasis is no longer on the target culture but on preserving the source text. Until recently, these one-way street strategies, denying any critical interaction between reader and text, have often reflected the directors' choices. They chose either to keep the story in its original context (sometimes with a few omissions) or to transpose the story to a different time or culture. *Electra* has undergone significant changes when adapted to foreign cultures. "Interlingual translation" which, in the conventional sense, implies a transfer between two languages, adaptation resorts to finding equivalencies in an effort to accommodate the receiver. In Jancsó's *Electra*, for example, the story is transposed to the Hungarian context of the 1970s and the main protagonist is represented dressed in a traditional-looking costume in a wide open place. In this adaptation *Electra*, the ancient character, whose name is preserved as identical, immerses in Hungarian culture in an attempt to blend with it. If we take a look at what is happening in the field of translation at the time, we observe a similar pattern in the appropriation of ancient spirit and culture in general. It seems that this Hungarian transfer achieves independence through the acculturation and adaptation of classic literature.

At this level, interlingual translation often becomes closely interwoven with inter-semiotic translation through immediate visual signs such as dress and décor. These cultural transfers, often achieved through actors' costumes (as we have seen Pasolini's films), tend to render the translation invisible and, to borrow a term from Lawrence Venuti, to "domesticate" the source text in order to: "give the reader [viewer in our case] unobstructed 'access to great thoughts', to what is 'present in the original'" (Venuti 1997, p. 5). The purpose of the invisible translation is to maintain a natural effect: "producing the illusory effect of transparency that simultaneously masks its status as an illusion: the translated text seems 'natural' i.e. not translated" (Venuti 1997, p. 5). But the invisible translation also deprives the targeted audience of its cultural abilities since the new text or film is presented as a domestic product. In the case of *Electra*, a domestic production can be considered

Theo Angelopoulos's *Travelling players* where myth and tragedy are blended with a modern Brechtian epic representation in a film on the recent post Second World War Greek history. This adaptation, which is not preserving the original dialogues of the ancient text, updates the play on other levels of narration and performativity. Watching this *Electra*, the impression is that myth is revived in a current time and in a current space.

Angelopoulos builds up such a two-way relationship with the ancient Greek culture in many of his films. In this film, the references are to Aeschylus's *Oresteia*, which plays an important role in the film's structure and the story's plot. Angelopoulos uses *Oresteia* as a medium that revives the history and society of Greece during the twentieth century. In other words, incorporating elements from the trilogy into the film adds timelessness to it, while at the same time the film gives a new life and a contemporary dimension to the myth.

If we pay attention to the details, we will see the film's similarities to Aeschylus's work: in the scene of the execution of the father, when he asks "I came from the sea, Ionia, where are you from?" he reminds us that it is the same place where Agamemnon returned from—the shores of Asia Minor. His wife's dream, that her son Orestes came back to her uterus, echoes the much more intense and violent dream that Clytemnestra had before she met her son in the tragedy, that she had given birth to a snake. Moreover, the executions remind us of the ancient tragedy, especially the scene of Aegisthus's and Clytemnestra's murder. However, the history of postwar Greece is so bloody that no happy end similar to Aeschylus's trilogy can fit.

Hence, the film obtains a more interesting relationship with reality and ultimately with the modern language, which it uses in transferring the meanings of the play and the myth into real times. This may explain why such adaptations (Angelopoulos's and Jancsó's) have become normative in postmodern terms. One of the characteristics of postmodernism is disbelief in the ability of any art to create a realistic impression by using well-established models. The disbelief is manifested by fusing models and intentionally creating discrepancies and anachronism (Jameson 1984). Postmodernist thinking thus encourages the use of an emphatic dialogue in a contemporary world filtered through modern models (such as the model of Jancsó's and Angelopoulos's films).

14.5 Conclusion

The controversial nature of film adaptations that "can be seen as a kind of multileveled negotiation of intertexts" (Naremore 2000, p. 67) seems an appropriate point of departure towards laying the foundations of an aesthetic based on a dialectical exchange between ancient theatre and cinema. It seems that one of the major misunderstandings about motion pictures stems from their heterogeneous nature. They are made of diverse components—films are altogether written text, speech, sound, music, performance and images—and evaluating their aesthetic properties is a major challenge.

However, the relationship between film and theatre in terms of adaptation and especially in terms of adaptation of Greek drama goes through a plethora of opinions, from those of the old fashion who believe that such an adaptation is always a “betrayal” for the tragedy to those who are convinced that the new work that comes out when an adaptation occurs is an independent and autonomous work.

Finally, if we want to better understand film adaptation, we should recognize it as a separate sub-genre of cinema that fulfils specific characteristics of aesthetics due to this link or recognize it as free interpretation of a main universal theme that moves into time and assumes the form of each period and each culture it revives. We should also ask simple questions such as: What makes a successful adaptation? How do we define this genre? What are the main criteria? Should fidelity be invoked in the process of adaptation and to what extent? The pre-existence of a source text, suggested in the idea of adaptation, leads us to consider the final product as a palimpsest in which a dialogue takes place between what is seen and unseen. Film adaptations are visible remains of an invisible process. In fact, film adaptations can be viewed as archaeological artefacts, resulting from complex and intermingled transactions.

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Irini Stathi is an associate professor (Theory of Cinema and Audiovisual Arts) at the Department of Cultural Technology and Communication of the University of the Aegean (Greece). She studied Theory of Spectacle at the Department of Disciplines of Art, Music and Spectacle (Discipline delle Arti, della Musica e dello Spettacolo) at the University of Bologna and she has a Ph.D. from the University of Panteion-Athens (1996). She worked at the Universities of Panteion (Department of Communication, Culture and Mass Media) and Patras (Department of Theatrical Studies). She is the head of the Audiovisual Applications and Communication Lab and has directed a number of research projects, among which Restoration and Film Digitization. She has published numerous books and articles on film history, film theory and aesthetics, film semiotics and she has also participated in numerous international conferences on the same fields. Finally, she directed two documentaries on cultural and ethnographic content.

Part III
Media, Communications, and Semiotics

Chapter 15

The Brand as an Economic Value and a Sign: Positioning as an Instrument for Creating Market Distinctions

Dimitar Trendafilov

15.1 Introduction

The word “brand” comes from the Old Norse /brandr/ and it means “to burn” and “to mark out.” The roots of the brand can be traced back to ancient times when marking was originally used for denoting ownership of logs and different pets and marking signs of stonemasons who worked on the Egyptian pyramids as well as for prints by masters of pottery in Greece and China. To date, the most frequently quoted definition is that of the American Marketing Association, which states that a brand should be understood as a “name, term, sign, symbol, or design, or a combination of them intended to identify the goods and services of one seller or group of sellers and to differentiate them from those of competition” (quoted in Keller 1998, p. 2). Based on this idea, in article 9, par. 1 of the *Law of Trademarks and Geographical Indications*, the Bulgarian legislation extends the concept and defines the brand as “a sign capable of distinguishing goods and services of one person from those of other persons and can be represented graphically. Such signs can be words, including personal names, letters, numerals, drawings, or figures, the shape of the goods or their packaging, a combination of colors, sound signals or any combination of such signs” (Patent Department R Bulgaria 2009).

A quick glimpse into the economic history shows us that the evolution of markets is driven by scarcity and limited production of mass consumer goods to a super choice.¹ It is in the regime of the super choice that the brand has an increasing role

¹ According to a large proportion of researchers—economists, futurists, and marketers—at the beginning of the information age and the announcement of the knowledge economy, the capitalist system has undergone a revolutionary change, which may be equal to the invention of the steam engine or electricity. Although many factors have prevented the world from developing evenly, and in many parts of the planet remnants of the feudal system are observed, thanks to the

D. Trendafilov (✉)
New Bulgarian University, Sofia, Bulgaria
e-mail: dtrendafilov@nbu.bg, trendafilov.dim@gmail.com

as a clearly articulated promise for the added value of the purchase and as an offer for the acquisition of benefits. It appears simultaneously the reason and the instrument of an undeclared communication war with a global range, characterized by a much bigger diversity, flexibility, and innovativeness in the approach toward the potential “victims,” than those in the conventional conflict. This is a war for a place on the shelf in the store, for the attention of the customer, for his admiration and loyalty, and for his compassion and positive evaluation in the course of his whole life (see Rifkin 2001, pp. 109–113). Every day, each one of us participates actively in shaping the choice, diversifying it, and modifying it. As a result, the lifestyle of the products is constantly decreasing; the information regarding prices, quality, and manufacturers is accessible to the most unprepared consumer and retaining of the interest of the customers is turning into a task of paramount importance for the marketing departments. In such an environment, the brands that are born and developed perform the complex role of a reference point in the variety of goods and services, see the emergence of new needs, which must be satisfied, and aim at offering the best under the pressure of the ruthless competition.

Today, we can see how new markets are born (unthinkable only 20 years ago), while entire industries and traditional manufactures are going down. In the information age, it is very hard to determine what is creating more economic value—the production of physical goods or the creation of software and supply of services. In *The Age of Access*, Jeremy Rifkin attempts to resolve this dilemma by means of the following conclusion: “...the new era is more unmaterial and intellectual. This is a world of Platonic forms, of ideas, images and archetypes, of notions and fantasies. If the people in the industrial era were busy with the appropriation and transformation of matter, the first generation in the era of access is far more interested in brainwashing. (...) To be capable of extending your own intellectual presence, to be universally connected, so that you can influence the human consciousness and shape it—this is what motivates the business in every industry” (Rifkin 2001, p. 63).

Thousands of pages are devoted to the phenomenon of trademark with analyses and commentaries, descriptions, and examples, but it seems that questions allowing further research and elaboration still remain. This is due to the fact that the brand and its management are constantly evolving at every single stage in the history of markets and business. By updating what was once a label of origin, branding has become a management process of *personalization* and a means of *differentiation*. The trademark is already “living” its own independent life, it has its own identity, and acquires its own existence by which it is turning into a substitute for the product and even more so for the service. This replacement, however, is implemented somewhere in the bowels of the consumer’s mind which, like mass production and communications, is undergoing continuous and dynamic changes. This is why the

globalization processes the developed countries and the powerful international corporations exert a strong influence on the unification of the mechanisms of economic development, in the center of which is not so much production itself but rather the single user. This has its consequences, eloquently described by Jeremy Rifkin: “In the networked economy, characterized by a shorter product life and a continually expanding flow of goods and services, human attention, rather than material resources, is what becomes insufficient.” (2001, p. 107).

goods–buyer relations can no longer be seen as lifeless and maximizing the benefit for both parties but rather has an emotional basis characterized by mutuality and respect. Today, the brand is charged with many more symbols—social, cultural, and personal—it is the new dominant in supply because it conveys messages about shared principles and promises for the added value. Thanks to it, shopping has turned from a necessity for the procurement of products into an experience with a strong emotional intensity, proof of which are not only fashionable clothes and cars for every taste and status but also the fact that entire retail chains, show business, and even our spare time are susceptible to branding.

The meaning of existence of the trademarks lies in the arrangement of a market (in product classes, categories and groups, in price levels) and the quality control over goods and services. In their totality, they create a clear and accurate picture in the mind of the consumer of what current offers from which to choose are, with respect to quality and quantity. According to renowned author Philip Kotler, the brand is the major issue standing in front of the product strategy of every company (Kotler 2002, p. 356). He adds that the market power comes precisely from building their own brand or brands; thus, in contemporary marketing, the most distinctive skill of management teams is “their ability to create, maintain, protect and enhance the brand” (Kotler 2002). At this place, it should be remarked that the brand draws its strength not from its own existence but from the market, to which it is dedicated, i.e., for it the major source of energy is not the product as a physical object itself but rather the targeted consumer (Fisk 2008, p. 152). The main conclusion that follows is that marketing, by definition, is building the brand in the mind of the client—this is its main goal and source of inspiration. Without a strong brand policy, all other marketing efforts are doomed to failure (Baleva 2007, p. 172).

15.2 Value/Sign

2.1. A curious fact is that when describing the main functions of a brand, many researchers put the emphasis on the claim that it is primarily a tool for *identification* of its owner and thus for *differentiation* of the offered goods or services from those of the competitors. From the history of the trademark—from branding of horses and cows to the creation of a branded experience like *Disneyland* and *Niketown*—we can see that it has distinctive functions but they are changing as a result of the accumulation of meaning in it (Fig. 15.1). The creation of distinctiveness on the market only appears in the next, but not the last, step in its evolution. Currently, we are already talking about a new level—that of *brand equity*.

Graphically, the growth of the brand can be represented as follows:



Fig. 15.1 The historical evolution of brand (author—D.T.)

During the first stage of history, marking was important for the *owner* so far as showing to the others that he had rights over the labeled objects or animals. Subsequently, the developing market has forced the manufacturer to come out of anonymity and provide his potential customers with an assurance that, for their money, they receive a product of a specific craftsman who supplies the demanded quality. With the advent of industrialization and multiplication of the number of brands, the time of differentiation of individual producers has come. This is the product era, when the primary means for communicating it is the emphasis on its distinctive attributes and the benefits for the customer originating from them (Trout and Ries 1981, p. 27). Gradually, besides the name and the logo, more attention is paid to the packaging and distribution of the brand. The client is now much more informed and demanding, which raises the bar for most manufacturers. Over time, however, “noise” in the market becomes more and more deafening, and the struggle for the consumers’ attention starts to become a major task of any marketing specialist (Roberts 2004, pp. 33–34). This leads to the emergence of value,² provided that it is given by and for the consumer and is not physically produced by a particular company. In his main elaboration on strategic brand management, Kevin Keller calls it *customer-based brand equity*, which incorporates “theoretical advances and managerial practices in understanding and influence consumer behavior” (Keller 1998, p. 45). Typically, it has a “differentiation effect” because the knowledge built of the brand in the mind of the end consumer influences his choice. This choice is a reflection of the marketing efforts of the company manufacturer³, considered to be as successful as a more favorable attitude a brand generates to its products, or without causing negative reactions by expanding its portfolio or by raising prices, or it just stimulates a larger demand for the goods it offers in its distribution network (Keller 1998).

As can be seen from the proposed scheme (Fig. 15.2), the brand value depends on factors such as favorable associations in the mind of the consumer who may be influenced by the brand through the marketing mix and a consistently constructed identity. Knowledge related to quality is based on previous experience of the customer with the production of the brand and recommendations received from the closest circle of people, and associations for reliability are a result of the enduring relationship of the consumer with the brand. According to David Aaker, people “like the familiar and are prepared to ascribe all sorts of good attitude to items that are familiar to them” (Aaker and Joachimsthaler 2000, p. 17).

Loyalty in turn can be evoked if the brand performs “its promise” to bring to the buyer more than the price he will pay. In Aaker’s words, it is “the heart” of any

² We can find a confirmation in the following passage written by Peter Fisk: “A good brand is the one that you want to live your life with, in which you trust and count on, when everything around you changes.... Originally brands developed as labels for right of ownership. Today, however, much more important is what they do to people, how they reflect their needs and attract them, how they formulate their aspirations and enable them to do more” (2008, p. 153).

³ “What makes an organization strong, are not the goods and services offered by it, but its position occupied in the minds of the consumers” (Trout and Rivkin 2002, p. 149).

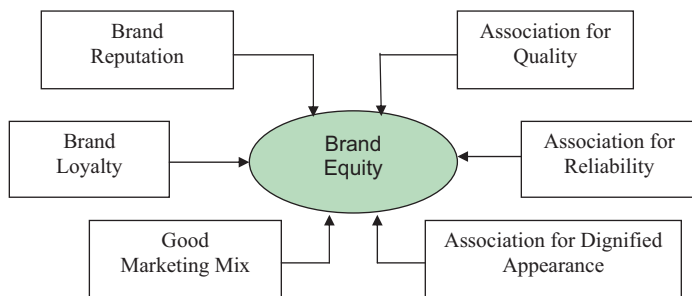


Fig. 15.2 The elements of brand equity system. (In Blagoev 2003, p. 217)

given brand's value. Concerning the price, the *size* of the group of loyal customers is important as well as the *intensity* of their loyalty (Aaker and Joachimsthaler 2000). It should be added however that these are inner-circle variables. At the same time, the value is dominated by the specific conditions of the environment/outer circle in which the brand exists and develops. Here, the key factors are the maturity of the market, the presence and strength of competition, the level and characteristics of consumer culture, living standards, cultural features, legal constraints, etc. (Blagoev 2003, pp. 217–218).

Brand value can also be seen through the prism of socio-semiotics because consumption is a form of exchange, just as communication is in its essence. This is an exchange of signs⁴ which convey a predominantly social message and are loaded with a specific meaning depending on the role that should be implemented—to show ownership or dominance, to reflect personal views and philosophy of the world, to approve or deny moral and social norms, etc. As Jean Baudrillard specified, the logic of consumption is the logic of the sign and diversity that must be understood separately from the economic logic of exchange value, as the latter is related to equivalence, rather than to generating differences (1996, p. 57). In this respect, the author explains further: “A user is never alone, as a talking man isn't either. Right here a complete revolution in the analysis of consumption should be made: just as *language does not exist because there is an individual need to talk...* but first there is language not as an absolute, autonomous *system*, but as a simultaneous *structure of exchange* of sense itself, to which the individual intention to speak is connected. In the same way, consumption exists not because there would be an objective need for consumption, some sort of final orientation of the subject toward the object; there is a social production in a system of exchange, of difference material, code of meanings and status values” (1996, p. 69).

⁴ Objects are signs, whether single or in combination; message bearers are their colors and shapes as well as their material and arrangement in space. The shape/commodity is an independent communication system which underpins the public one and is not a “supplement” or connotation. Here, the role of the code is decisive, whether talking about material contents of production or immaterial contents of meaning (Baudrillard 1996, pp. 18 and 158).

2.2. When using the standard definitions of a brand, it is necessary attend to the fact that they do not contain the concept of added value of the brand, as no legal and/or economic definition is able to cover the present meaning of the brand, which is rooted in the minds of the consumers. These definitions have ceased to carry essential information about what is the brand at the stage of the “trademark” (see Roberts 2004, pp. 24–30), where the product needed protection in trade relations, and was not perceived as a specific commitment to its final customer⁵. In other words, they can explain what *Coca-Cola* is, but are unable to clarify the factors enabling the brand to be valued at \$ 83.8 billion⁶ without necessarily being the most delicious drink in its category (Baleva 2007, p. 176).

The most accurate characterization of the brand is that it is neither a physical object nor a subject able to independently emit messages. In its essence it is an “idea” entirely in the spirit of the quoted above by J. Rifkin and in a purely psychological sense it is no different from political or religious doctrines, giving orderliness of the world. The brand is a sender of a promise for the acquisition of benefits and the added value. It is no accident that it is defined as a new totem or myth of the contemporary “tribe” (Evans 1999, p. 12), as it is full of codes, set patterns of behavior, and forms estimates of the surrounding reality.

Like any idea, the brand should be shared, and therefore its life is contained in the communication that occurs both in direction of the initiating organization to the audience and among the addressees, i.e., its message can be transmitted by everything and everyone and very often it happens in public space beyond the control of the producer owner of the brand (Bullmore 2001, p. 2)⁷. The brand also exists by virtue of the widespread knowledge about it; it is pure information and therefore has no boundaries, which could curb its influence, but there are limitations to the perception, which can leave the message misunderstood. Actually, the term “branding” should not be considered from the perspective of the owner, just because he has put his stamp on it. Rather, the term describes the perspective of the addressee—that he has successfully received the message of the brand and reacts to its proposals. Only then will the brand perform its function which, as already mentioned, is to communicate itself.

To avoid a conflict in concepts related to the trademark, R. Abadzhimarinova focuses on a summary that combines both the benefits of the manufacturer who has an interest in legal protection and economic result from possessing a brand, and the

⁵ The change in the meaning of the brand gives reason to some authors, including Baleva (2007, p. 177), using the presence of the English word brand, to designate a wider concept which is common in marketing, unlike trademark, which is part of the legal and business vocabulary. In the Bulgarian language, however, the semantic distinction is still hard to detect, despite the entry of the English terminology.

⁶ The figure varies according to the sources and years; for the example, data from Interbrand in 1999 are used, quoted by Aaker and Joachimsthaler in *Brand Leadership*, 2000, p. 19.

⁷ Almost similar to that is the story of cigarettes *Marlboro*, described by Jacques Seguela. The aim of their first ads was to highlight adventurism and aggression, while subsequently it turns out that smokers perceive the brand as a symbol of space and freedom of nature in contrast to the urban environment and stress of the offices (2004, pp. 73–80).

viewpoint (value) of the consumer. According to her, the brand is “*the mechanism for achieving competitive advantage for the company by differentiating its product, in which signs, distinguishing the brand, are primarily...those that provide benefits for the client for which he is willing to pay*” (2006, p. 48; bold is in quotation). As can be seen, the dignity of such observation on the contemporary significance of the trademark is contained in its designation as a “mechanism,” i.e., active, *based on plans, strategies, and particular actions, a process in attaining and maintaining of that state, in which the brand is distinguishable, familiar, offering benefits that the consumer wants to have for the relevant price*. Thus, the brand emerges from the limits of statics and is perceived dynamically, as a series of managerial decisions that work in time for the brand to be turned from a sign and name into a market factor determining the choice of the target audience.

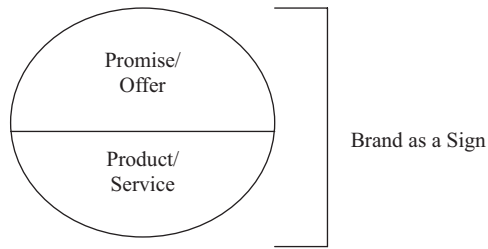
2.3. We will not find a place where the trademark *is* nor a place where it is created or where it draws its energy from, because it is primarily a management approach and strategic plan, and not a manufacturing process in the strict sense of the word. The brand has no separate independent body, but rather has a body language (2006, p. 10), which is perceptible through all its marketing activities—advertising, merchandising, public relations (PR) events, pricing, promotions, and even through direct experience of the client with its production. The audience perceives the message of the brand, but now as a “package” of impressions, feelings (i.e., emotional attitudes), and general evaluation.⁸

The product or service having a “natural” being to a certain extent, in fact, represents the signifier in the sign—brand. The signified is the promise that meets the emerging needs and expectations of the market (Fig. 15.3). The development of the idea—brand—is rooted in the minds of consumers, but was inspired by purely existential needs and/or personal and social necessities. Once delivered to the consumer, it becomes an added value, which derives its power from imagination and human desires (Seguela 2004, p. 57). It is so much stronger, as more members of the so-called target audience perceive its messages, the more they leave a deep trace in their memory. Therefore, the “target audience” should be seen as a narrower range of users against the entire market, which are considered largely equipped to decode the signal coming from the brand and are at the same time solvent in order to gain the promised benefits (see Appendix 1).

Referring to Roland Barthes, R. Abadzhimarinoва indicates that the brand builds a secondary sign system of the product (after it has already a form and content) and is precisely its social myth (2006, p. 170). She sees the brand as a connotation of a physical commodity, which “can lead all the importance and utility of the product, the full force of the desire to own it and all the emotional depths of satisfaction from its use to the removal of this finding as a fact, making this fact and all thoughts and feelings associated with it, just an objective observation” (2006, p. 171).

⁸ “The hidden part of the iceberg is a brand’s ‘cultural unconscious’ (...) made up of associations, similarities and significant differences” (Evans 1999, p. 15).

Fig. 15.3 Graphical representation of brand as sign in terms of Ferdinand de Saussure's theory



15.3 Positioning and Brand Communication

3.1. According to Blagoev, brand positioning⁹ means creating an adequate picture of it in the mind of the consumer (2003, p. 197). This is a major association or a total of two to three associations with which we want the buyer to link our brand and to distinguish us from the competition. In the current market situation of super choice the abundance of products with the same functionality and information supersaturation brand management has a dual task—first, to bring the most tightly its offer to the ideal concepts and expectations of the target audience and, second, to distinguish its proposal from the dozens and sometimes hundreds of alternatives, coming from the competition (Baleva 2007, p. 390).

Positioning theory is based on the observation that the contemporary consumer has neither time and capacity to remember and filter out the countless “reasonable” arguments, rushing from the market nor to test one by one all the available goods and services. Therefore, his mind simplifies and arranges the amount of data so that they serve as a landmark in the chaos of supply. This process is instinctive and its outcome is the outlining of a map of proposals, which most often stay away from the logic of scientific reasoning of marketers. It is rather an image of stimuli reflected through individual perceptions, coming from different brands, which provides clear and safe formulation of alternatives (2007, p. 389). These are deep-rooted associations about the characteristics of any known brand which remain stable at the influx of new information and emerge whenever its name is referred to (Blagoev 2003, pp. 192–193).

Behind the simple formulation “market positioning” lies a complex process, whose main elements deserve particular attention. Communication activity is present when market positioning comes to influence human consciousness with the aim of getting acquainted with any characteristics of the brand (Floor 2006, p. 65¹⁰). This is a directly targeted message by an advertising spot, by a positive experience at the time of purchase, through distinctive packaging, with demonstrations of the

⁹ We use the concept of brand positioning, rather than product positioning because, as mentioned above, the brand has long since become a symbolic substitute of goods and even gives them a force in the course of communication with the target group (see Baleva 2007, p. 390).

¹⁰ “The consumer has to recognize the premises that are made in the brand positioning, in the content of the brand communication. And the look and feel of the communications will have to reflect the brand personality” (Floor 2006, p. 65).

functional qualities of the product, through PR events, or, as it happens in practice, by all known tools of the marketing mix (Zyman 2005b, p. 104).

“Every act of communication implies the existence of a message transmitted from one source (communicator) to a recipient (addressee) through any transfer (transmission) channel” (Doganov and Palfi 1995, p. 59–60). The message of the trademark is transferred to the public communication system and as any deliberate act, it is intended to cause a reaction in the behavior of a person or group of people by affecting their knowledge and emotions (Doganov and Palfi 1995, see Petrova 2004, p. 77). To convince and present itself in its best light, the brand uses not only words but also other symbols such as music, colors, graphics, and even people. Taken together, they are codes in the transmission of which a distortion and/or loss of information is inevitable as the means of expression are insufficient and imperfect (Doganov and Palfi 1995, p. 60). Any brand, like people, has body language and to a considerable degree we understand it (Bullmore 2001, p. 10). Whenever there is a point of intersection with it, the consumer adjusts his perception instantly and subconsciously to its characteristics. Therefore, those who are responsible for the communication policy should be alert to any single signal broadcast by the brand as the most trivial one may be decisive (Bullmore 2001).

In addition, complications occur with the receiver, because the data reaching him or her must be decoded. As the origin of the word “communication” suggests (from Latin “communis”—“general,” “community”) for high efficiency of the message the presence of a common to both parties sign system is necessary (Doganov and Palfi 1995, p. 62). In this respect, the language of the brand should be consistent with the ability to decode the target group, which is achieved through precise segmentation of the market and development of a detailed profile of the users in it (see Appendix 2). It is not enough just to know the educational level of the audience, jargon, and preferred channels of information exchange since a significant influence on perceptions have the lifestyle, shared values, role models and opinion leaders, as well as the level of openness to innovation.

After *encoding* and *decoding* of information, noise is the third factor of decisive importance for the transfer of the message. In most cases, it comes even to many noises that accompany the communication channel, resulting in distortion and loss of data units. Typical of them is that their sources, volume, and intensity are beyond the control of the transmitting and receiving parties.

The “father” of the positioning concept—Rosser Reeves—pays particular attention to the environment in which the communication of a trademark and/or product unfolds. In *Reality in Advertising*, he states that the consumer is in a state of constant siege. “He is totally confused. He is relentlessly stormed by television, fiercely attacked by the press, carved by the radio, perplexed by posters. It is very difficult to compel him to remember something, he rather tends to forget easily” (Reeves 1994, p. 174). The famous advertising specialist adds that the customer ranks everything in his head according to the individual scale of *his values*. According to the author’s metaphor, the mind is filled with “boxes” containing all sorts of information, arguments, and facts, some of which overflow in case of new information invasion and some of the old knowledge falls out (Reeves 1994, p. 185). Therefore,

any advertising communication was destined to fight the “*reality of a strictly established capacity*” (Reeves 1994, p. 186). On this basis, Rosser Reeves builds the thesis for the *unique selling proposition* (USP), and calls the process of introducing it to the memory of consumers “implementation” (Reeves 1994, pp. 193, 203). USP in an advertising message does not come from the praise and hyperbolization reaching the audience, but from what the client as the receiver retrieves from the message. The proposition must carry information about a *specific benefit* from the presented product,¹¹ and its exclusivity has to be related to uniqueness in the product itself or be based on arguments which have not yet been presented to the target audience. It is necessary that the uniqueness is such that it can hinder the competition to produce a better offer or be unable ever to do so (Reeves 1994, pp. 193–194). Otherwise, the message turns into one of the many similar types and becomes part of the overall data noise. It will not go its way through the transferring channel 100% and even if it reaches the mind of the receiver, it will not have the capacity to remain there.

In this context, USP is defined by Reeves as “*a concentrated expression of the advertising argumentation,*” (Reeves 1994, p. 226) and from now on, he lays the foundations of market positioning as the process of focusing on a single distinctive feature or benefit of the product that has value to the consumer because it is the only way the message of the brand to reach his mind (Katrandzhiev 2007, p. 170).

3.3. Further, when the information “attack” is integrated and achieves its goal, it is assumed that in the potential consumer a homogeneous “image”¹² is created, which indicates *where* the brand is among the competitors in a given category, and *what* the brand is—what its mission, power, and promises to the audience are, i.e., in what it is different from the others (see Keller 1998, p. 87).

By *where* is meant that no product of a brand “hangs in the air.” The natural cognitive process in humans acts in the direction of the perceived objects and phenomena from reality to be arranged in hierarchical structures (Keller 1998, pp. 88–89). In this way, memory is organized and proper orientation and stability of knowledge is ensured. This also applies to brands and their products and services. *Coca-Cola* for example is a beverage, but in this category, in general, appears also *water, alcohol, and soft drinks*. Water, in turn, is carbonated, natural-mineral, and natural-table. Alcoholic beverages are divided into concentrated and fermented drinks, plus beer, as each of the mentioned groups also divides into at least one more sublevel. In soft drinks, there are milk, hot liquids such as coffee, tea, and chocolate, and various fruit juices. Here are also colas and the so-called noncolas (*Sprite, 7 up*), which are further subdivided according to the flavor or sugar content, etc. In an effort to establish and maintain its brand image, the management team should not forget where exactly its production is located. Since the consumer bears in his mind the structure of the offered goods, any attempt to dilute his knowledge of the location

¹¹ “Every consumer buys to meet their specific need, therefore, the selection of information focuses on those properties of the advertised product, which will meet the need of the consumer” (Petrova 2004, p. 25).

¹² “The image of the brand is built over time and it purposefully appropriates the images, actions and events that define the importance of brand for the consumers...” (Zyman 2005b, p. 91).

of the brand would be fatal, at least because the complexity in information about a brand automatically leads to forgetfulness.

As already noted, in the course of the “meetings” with the brand, the consumer gains experience with the functional features of its products, promotions, ads, with its logo, and the rest of its elements, which leads to *awareness* of the brand. The brand is so much stronger, the more often both sides establish contact with each other, it leads to faster recall of the brand name and the solutions it proposes to meet the specific needs (Keller 1998, pp. 89–90). Brand knowledge is necessary, but not the only condition for establishing strong positions in the mind of the target group. Here, the associations take their place, forming the brand image and showing *in what* it differs from its competitors.

3.3.1. Among the types of associations, we put *attributes* in the first place. These are the characteristic features, properties, or qualities that the consumer believes the product or service must have, which are the basis of their character and they determine the purchase. According to how directly they are related to the functioning of the product, attributes are divided into two subtypes (Keller 1998, pp. 93, 95–96):

- *Product related*—these characteristics are related to the physical structure and functions of the product or with the statutory conditions for service provision. All products have major components, parts, and/or mechanisms, and many additional ones (extras), enabling them to perform actions or to achieve the effect for which they were created.
- *Nonproduct related*—they influence the purchase and use of the product/service but are not fundamental to their specific functioning. Among them are the price and color of the product, the appearance of packaging, reputation and origin of the manufacturer, celebrities/experts which recommend its use, the type of stores that sell it, etc.

Price is a factor of versatile importance, since it is a major association defining the “value” of the brand and it is very often the lever, which forms the complete knowledge of the user for a product category, for chain stores or brands of one owner (Keller 1998, p. 95). In the most literal sense, from the viewpoint of the purchaser, price is the sacrifice (a certain share of his cash budget) that he is willing to offer in order to meet his needs through a product or service. When the potential user faces the amount written on the label,¹³ processes occur that are influenced mostly by various marketing stimuli enabling him to instantly determine where it is on the scale *expensive–cheap* and whether it is located in an equilibrium point *price–quality* (Blagoev 2003, p. 295). He gets from it a huge volume of information on supply and demand in the category (competition and market situation as a whole), cost, trade concessions, length and structure of distribution channels, etc., and not least on the goals of the manufacturing company (Blagoev 2003, p. 288).

¹³ According to Jack Trout and Al Ries, the right place where the high price of a product should be put on is in advertisements, not in the store. If the work on positioning is well done, in front of the label there will be no unpleasant surprises for the consumer because he/she will already be aware that this product is moving in a certain high-price category (Trout and Ries 1981, p. 70).

The notion about the user and the use is formed directly from experience with products of the brand or through contacts with persons having such experience (recommendations/opinions; “word of mouth”). One of the tasks of advertising is also to paint a picture for the unfamiliar or poorly informed user as to where, when, and how to use the presented product or service. This may be on a particular day or hour, during a specific season of the year, at an event—formal or otherwise—in carrying out any activity (sports, cultural) in or outside the home, etc. According to Keller, demographic and psychographic factors are crucial—gender, race, age, income, occupation, social status, and political views (Keller 1998, pp. 93–94). In this regard, Sergio Zyman makes the important remark that depending on the audience, the differences in the image of the use vary in a wide range, but users will build one, regardless of the manufacturing company taking a conscious action on building it or not (2005b, p. 93).

Feelings and perceptions as pointed out by many practitioners are the core factors in building the consumer value of the trademark. Among the main supporters of this thesis is longstanding CEO of *Saatchi & Saatchi*, Kevin Roberts. In *Love-marks*, he states the following: “Let’s stop running after every new fashion fad and rather concentrate on creating lasting and emotional relationships with consumers.... They look for what they can love. They insist on having greater freedom of choice, have higher expectations and need an emotional note, which can cause them to make choices” (2004, p. 36). Thus, it is of critical importance in advertising, and any other communication, to emit positive impulses and associate the brand with positive emotions. Anelia Petrova states that when strong arguments in favor of the product are presented to the audience, the emotion should be only a background that contributes to the perception and processing of information. But when the brand should be distinguished from competitors or to stand out among more familiar brands to the audience, positive emotional stimulation should come to the fore (2004, p. 119).

Individuality of the brand is a reflection of the perceptions and feelings of the consumers with respect to the brand, as if it comes to another human being who has their own character. For example, there are brands such as “retro,” “modern,” “exotic,” “fresh,” “sophisticated,” “vibrant and dynamic,” etc. (Keller 1998, pp. 97–98). Advertising has a major contribution to shaping the personality of the brand in the minds of the target audience because it describes specific cases and uses of the product, creates animated characters using real [or famous] people to personify the brand, gives emotions through the whole voice of the spots, thorough the music in them either by their original scripts (Keller 1998).

When building his concept of market positioning of retail brands, Ko Floor states that intangible characteristics of the brand are ultimately much more difficult to imitate than the visible ones because they are the result of its mission, vision, and culture that are unique as in humans (2006, pp. 67, 226). Citing the research of D. Aaker, Floor indicates five identity dimensions, which are important for the positioning of the brand (2006, pp. 228–289): *sincerity*—includes characteristics as “down to earth,” “conventional,” “genuine,” “careful,” “classic,” etc.; *excitement*—embraces “flashy,” “young,” “provocative,” and “trendy”; *competence*—“secure,”

“hardworking,” “serious,” and so on; *sophistication*—unites “glamorous,” “sexy,” “pretentious,” “feminine”; *ruggedness*—here refers to “masculine,” “athletic,” “strong,” etc.

3.3.2. The second group of associations are the *benefits*. They represent the values and the importance that consumers attach to the functional attributes of goods and services, i.e., what they think products do for them. Depending on what motivations are they associated with, benefits are divided into *functional*, *symbolic*, and *based on experience* (Keller 1998, p. 99):

- *Functional benefits* are based on the core advantages derived from the use of the product or service. Most often, they are associated with basic motivations of men such as physiological needs and the needs for security and include the desire to eliminate or avoid some new problems.
- *Symbolic benefits* are related to external benefits of using the product. Usually, they correspond to attributes not directly related to the product or service, especially with the above-described *picture of the user*. Symbolicity is rooted in meeting social needs, building self-esteem, and personal expression.
- *Experience-based benefits* are related to what it feels like to use a product or service. They have a relation both to the *picture of the consumer* and *of the use*. They satisfy the needs of pure sensory pleasures, of diversity and cognitive stimulation (Keller 1998, p. 100).

3.3.3. *Attitude* is the most abstract of the three types of associations and is the final result (to a great extent) of the overall perception of *attributes* and *benefits* of the product. It is a general assessment of the brand and is most often the fundament on which consumer behavior is built, expressed in purchasing.

To create a model of attitude, it is necessary to resort to the help of psychology as only it can lead and define the different functions that the assessment may have (Keller 1998, p. 101):

- *Utilitarian*—there is a relationship with attitude formed on the reward–punishment basis,
- *Function of value expression*—corresponds to the ability to derive individual values or a personal concept,
- *Self-defense role*—based on the instinct to protect oneself from both external threats and the inner sense of insecurity,
- *Cognitive function*—related to satisfying the need for creating order, structure, and meaning.

The consumer builds his notions of the brand depending on the functions to be performed. Thus, the use of certain brands allows him to separately or simultaneously satisfy basic needs, to express his personality, to eliminate the feeling of weakness and vulnerability, and/or to simplify decision-making. Usually, the buyer has his own idea/belief on the benefits the brand brings either from experience or from opinions of others about them. But at the same time he assesses exactly to what extent these benefits are good or bad and what is the likelihood to fully meet the emerged demand (Keller 1998, pp. 101–102).

3.3.4. Keller adds that associations must be *strong* to create *favorable attitude*, and to be *unique*, even exactly in this order to create a brand of high value (Keller 1998, pp. 102–103).

The strength of associations in the consumer's mind is expressed in quantity and quality of information which will be recalled from the memory in connection with the brand and which will influence the purchase decision. Here, we return to the process of introducing the brand message as the communication factor plays its role in two directions. First, the strength of associations depends on how the message was originally perceived and, secondly, where the data gets. Psychologists describe this process as “encoding” and “storage” (Keller 1998, p. 104). In the process of encoding, the volume of information that comes from outside is important as well as how much from it passes through the filter of the consumer. The increased attention in the moment of communication involves a bigger amount of perceived and sorted information. Quality, in turn, shows the way information is conceived (Keller 1998, pp. 104–105). It depends on the specific interest of the client, of his individual values, the social environment, the ability to decode the message, etc.

The storage of data is influenced by many factors and can be assessed only by the speed with which the saved data can be recalled. The presence of *other* product information is often a reason for disruption or reduction of access to already existing associations for the same brand. If it is too abundant and varied, it may distract the consumer from the main message, and to confuse or cause him to overlook the significant. *Time* weakens associations as it gradually reduces their ability to be “called” in time. Very often for their evoking, external signs are necessary (visual—specific colors, shapes, logo, or character) to serve as reminder tools. The greater their number and frequency of occurrence, especially in the context in which the brand is perceived, the greater the likelihood to promptly bring out the stored information on the surface (Keller 1998, p. 105).

- Associations vary depending on the extent to which they create *favorable attitude*. This means the audience perceives the attributes and benefits of the brand as appropriate for satisfying the emerging needs and desires.
- Goodwill is a function of *desirability* and delivery options. The first factor is a personification of the motives, standing behind the purchase of a product. According to popular Abraham Maslow's hierarchy, these may be basic needs, the need for stability and protection, of social interactivity, self-expression, and self-realization. The key point here is that the needs on the higher levels cannot be satisfied without first meeting those of the previous step. Marketers also observe a gradation in the importance of the characteristics of the brand from the lower to the higher level according to the following scheme: attributes lead to obtaining benefits and benefits lead to the acquisition of value (Keller 1998, p. 106). Thus, desirability can be seen as an indicator of how valuable is a brand to the consumer.
- The possibility of actual delivery of the benefits which the brand promises in its communication also has its importance in the general system for creating

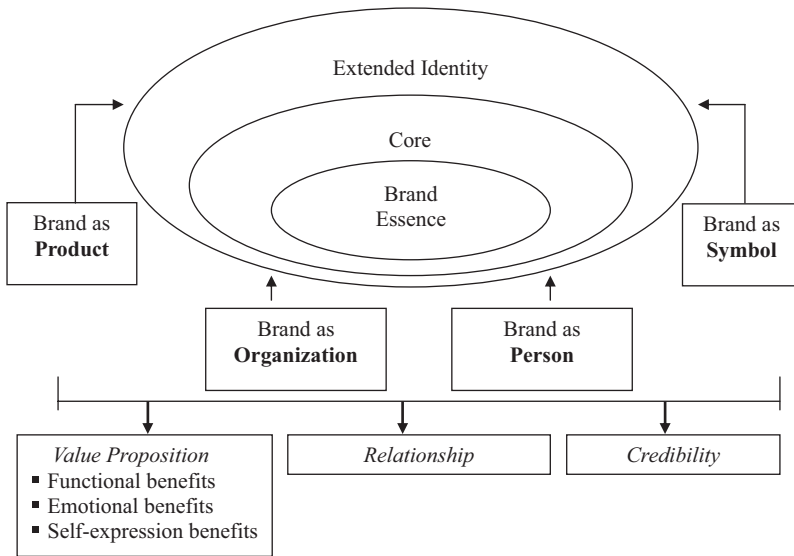


Fig. 15.4 A short version of D. Aaker’s brand identity model. (Aaker and Joachimsthaler 2000, p. 44)

a positive evaluation. The design and functional characteristics of the product must support the favorable associations, to maintain and strengthen them in time. But difficulties for the brand management occur from the fact that in the presence of stable knowledge of the brand if it is decided to innovate the product it is almost impossible to try to create new perceptions of it (Keller 1998, p. 107).

- *Uniqueness* of the associations is at the center of the positioning, in its essence it is a “USP,” which creates a competitive advantage of the brand. The reason to purchase that particular product may be communicated through direct comparison with the available alternatives on the market, or to be strongly implied (Keller 1998, p. 108). As mentioned earlier, USP may be based on attributes directly or indirectly associated with the product or service or functional benefits and experiences, but it is important to be *specific*.

3.4. Image, in turn, which is the sum of the present associations for the brand, is a result of the deployment of *brand identity*. It is the “main statement” of the manufacturer of what his brand represents and thus it becomes a strategic inspiration for all marketing efforts in shaping the image (Aaker and Joachimsthaler 2000, p. 40). Construction of identity can be described as an active effort by the organization to build and maintain lasting ideas about itself to consumers and competitors, which embodies two things—a *promise* to the clients and *responsibility* of the employees (Aaker and Joachimsthaler 2000, p. 72). To this end, a set of tools is used adding richness, basic fabric, and clarity of the brand, the visible outcome of which is the *fundamental position*, which is communicated to the audience (Aaker and Joachimsthaler 2000, p. 41).

The system of identity as presented by David Aaker (Fig. 15.4) is an ideal theoretical framework, but in reality not all elements are required for the complete construction of a successful brand. We see that its core is formed from the essence of the brand, whose tasks are to infuse energy into the heart and to stick in one whole the elements of identity. It is a thought or phrase that does not always necessarily exist, but where it does exist, it is a powerful weapon, showing in simple terms what the brand is focused on. Its content must be sufficiently clear and strong to make it stable over time, to vibrate among consumers and to inspire employees and partners of the organization (Aaker and Joachimsthaler 2000, p. 45). Unlike essence, the final sentence put at the end of an ad is created with a communication purpose and is directed only to the consumer group, to make a concrete proposal for purchase. It changes with each campaign and in accordance with the various tactical objectives of the management and therefore has a limited life (Aaker and Joachimsthaler 2000, p. 47).

Extended identity is the general term for the various manifestations of the brand—product, organization, personality, and character:

- *The product* by its nature carries primarily material characteristics such as attributes, without which no image or identity can exist, but in itself it is not the brand. Through it, associations are created, related to the functionality and capabilities, as well as use and quality. But the brand as a mechanism adds the halo of the manufacturer to the product or service, as well as the country of origin, emotional benefits, and perception about use.
- *The organization* is particularly important for the realization of services, high-tech products, and goods with long life and use (Aaker and Joachimsthaler 2000, p. 53). The manufacturer, who stands for them becomes crucial because he is much more “visible” to consumers. Therefore, the reputation of the innovator, of the socially responsible and oriented to customer problems, is a serious competitive advantage.
- *The personality* of the brand makes a difference with the competitors and delivers value to the target audience. Without it, no brand would be interesting and memorable, it would leave no impression and trace in the minds of consumers, nor could it rely on the awareness and lasting relationships with them. Personality adds vitality and a more real image of the brand and can stimulate its perception as an adviser, friend, or just good company (Aaker and Joachimsthaler 2000). If the analysis of identity proves that there are no personality traits, it means that the organization perceives its brand too narrowly.
- *The symbol* is more than a tactical weapon of communication as on a strategic level it opens up opportunities for the brand to be recognized quickly and easily. It can be a slogan, melody, logo, gesture, a real person, a customer loyalty program, a certain color, or a distinct packaging (Aaker and Joachimsthaler 2000, p. 54). In this sense, it is the external sign which, in Keller’s definition, acts as a key to the information contained in the memory of the user about the brand. The more saturated with meaning and associations is the symbol, the greater its importance in the structure of identity is. Therefore, sometimes (as in the case

with the logo of *Nike*, for example) it can be seen not only as an element of the extended identity but also as an integral part of the brand core (Aaker and Joachimsthaler 2000).

15.4 Practical Application of the Positioning Theory

Soon after Rosser Reeves' *Reality in Advertising*, in the 1970s in a series of publications in the magazine *Advertising Age*, advertising experts Jack Trout and Al Ries shaped the current positioning theory. The great success of the articles inspired both practitioners to penetrate deeper into the topic, the result of which is the classical elaboration from 1981 *Positioning: The Battle for Your Mind* (in Katrandzhiev 2007, p. 171).

Prior to developing their thoughts on the topic, Jack Trout and Al Ries pay attention to the fact that positioning stems from the product but in its essence is a process of “putting” *the product into the mind of the consumer*, but not what you do to a product (1981, p. 3).¹⁴ Their main idea is captured most accurately by Bill Robertson, who summarizes that positioning is “the action by which we create in the mind of our target audience a perception regarding our product that *positively differentiates it* from its competition” (Robertson 2005, p. 53; italics mine). Thus, the positioning concept automatically becomes a communication problem, which requires redefining of the basic task of advertising. According to the cited authors, the time of boasting words in advertising spots is already over, as the time has come for the products on the market to be compared with each other. So positioning comes to the fore as a powerful communication weapon (Trout and Ries 1981, p. 2). It does not exclude the “sacred” principles of the advertising industry—poetic speech and the expressive means of art—but its main purpose is to convey directly and as accurately and clarify the promise to the audience.

In part, the promise requires the message to conform to reality, i.e., to the available material present in the mind of the consumer and not to concepts and forms unknown to him. There is no need to rely on the different and super original, since it is much easier and more successful to work with associations already created in the mind, rather than building new ones (Trout and Ries 1981, p. 5). In this regard, Trout and Ries expressed their sincere amazement how much is being invested in attempts to change minds through advertising, while in our information overload society human mind perceives only signals and signs, which comply with previous experience or knowledge already acquired¹⁵. Like Reeves' “overflowing boxes,” they believe that setting new information in the memory of the receiver is

¹⁴ In *Differentiate or Die*, we encounter the following formulation: “Positioning is how you differentiate your product in the mind of its potential users. (...) If you understand how the mind works, you will understand positioning too” (Trout and Rivkin 2002, p. 102).

¹⁵ “Don't play semantic games with the prospect. Advertising is not a debate. It's a seduction” (Trout and Ries 1981, p. 76).

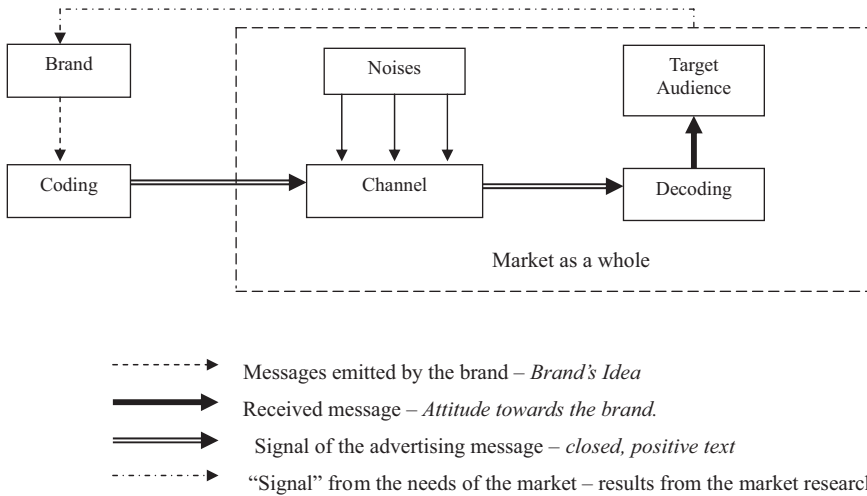


Fig. 15.5 An illustration of how classical communication theory specifically could be applied to brand communication. (The scheme is modeled after Professor Claude Shannon's one presented in *Advertising As It Is*, Doganov and Palfi 1995, p. 60 and the article *Advertising: The Frame Message* by Nöth (1987))

only possible if the already existing data are removed (Trout and Ries 1981, p. 7). Advertisers do not see that the messages they create and send are only the visible part of a huge iceberg, as we interact daily in a thousand more confusing ways. So the environment, saturated with messages (see Fig. 15.5), itself becomes a channel for transfer to filter data and only a small part of the message reaches the consumer's mind (Trout and Ries 1981, pp. 7–8).

In the original text, Trout and Ries introduce the term *prospect* (1981, p. 3), which describes the object of the communication attack by the brand. It is crucial to understand the relationship brand—target audience, because the intentional selection of the word suggests that the consumer should be seen as a “perspective” to our brand, as an “active space/point of view” in which the brand projects signify—the promise and the proposal. In his mind, the latter turns into expectations and a general assessment and if we can present it visually, it would be a three-dimensional graph, where points are mapped indicating the location of the brand as relevant to user-significant attributes, characteristics, and relationships.

Hence, it follows that positioning is not an isolated act but an organized system for the detection of a free slot in the mind and attacking it by appropriate means at the appropriate time and under appropriate conditions (Katrandzhiev 2007, p. 171). Therefore, Jack Trout and Al Ries insist that in communication “less is more,” which means that, contrary to the growing chaos of the communication environment, the sender should simply and clearly formulate his message—“to sharpen” it, to be able to reach the minds and to leave there a long trail (1981,

pp. 8–9)—“The best way to penetrate into the human mind, which by nature hates complications and confusion, is by simplifying your message to the extreme. Among the most influential marketing programs are the ones that focus the attention on a single word. (...) Focus entirely on...a powerful differentiating idea and try to deploy it in the mind of potential users of your product. Through this highly impressive signal, thanks to which you will be able in a clever way to infiltrate and establish ‘direct contact’ with people’s minds, you will help the same minds suddenly ‘see’—as if struck by lightning—how simple they can solve their problems by using your product” (Trout and Rivkin 2002, pp. 107–108). The natural progression in the evolution of the market we are witnessing today is the “era of positioning.” Creativity is no longer the key to success and, according to Trout and Ries, it is time for advertising to return to harsh reality. And it suggests that to “rise above the crowd,” you need to create a place in the mind of the consumer. The short way to it is creating the perception that you are the first in something or somewhere, although this is not necessarily the entire truth. The authors recall that there is a reasonable cause for America to get its name not from its actual discoverer Christopher Columbus but from the traveler Amerigo Vespucci, who traveled to the New World 5 years later. While Columbus was more interested in gold and the Spanish noble title, Vespucci was able first to point out that this, rather than Asia, was a completely unknown territory. The more important step is that the latter spread intensively information throughout Europe about the revolutionary discovery of the then geography, which earned him the trust of the royal yards and the privilege to name a whole continent in his honor, while Columbus ended his life in prison (Trout and Rivkin 2002, pp. 29–30). A lot of the goods and services known today have a similar story, as the names of the brands that introduced them are so deeply embedded in the memory of buyers that is almost impossible to be displaced from there. Their priority was to become aware of the fact that *you have only one chance to make a first impression* and they have benefited fully from the situation. In *Differentiate or Die*, Trout justifies this fact again with the mechanisms of the human psyche: “The first remains the first, because people believe that the first is the original, but all that came later were copies or imitations. *It is understood* that the original has more knowledge and more experience” (Trout and Rivkin 2002, p. 116, italic mine).

According to psychologists from Harvard University, quoted by Trout and Ries, the average person can handle a maximum of seven units in his memory. This means that when someone is asked to list brands producing certain products, the respondent will indicate at most seven such cases, moreover, if they are representatives of a category that is of immediate interest to him/her. If the products do not fit in his closest range of needs, he probably will indicate only one or two brands familiar to him/her from general culture (Trout and Ries 1981, p. 35). This suggests that the mind has a limited capacity for receiving and processing incoming information and defocuses easily; it arranges the incoming data in a way that allows people to navigate in the surrounding environment, and all sides appear redundant.

The ranking of brands resembles a ladder, each step of which is a separate brand (Trout and Ries 1981, p. 37). Some “product ladders” are composed of only few steps, others contain more, but as noted, hardly exceeding seven positions. For a brand to climb at least one step up the scale of the user, it is required to displace the competitor there. Usually, it is much more difficult than to descend to a lower level or just come off the “ladder.” Therefore, experienced consultants advise that when advertising is used to introduce new products, instead of starting an unequal struggle with the stagnant knowledge of already popular brands, it is more appropriate to attempt to create a completely new “ladder” on top of which the name of the communicated brand can be distinguished. But even in such a situation, it seems to be more successful to *explain what is NOT your new product*, rather than wasting efforts and resources to describe what it IS (Trout and Ries 1981).

Further on, Trout and Ries pay the necessary attention to the name as a factor that plays a significant role in the battle for the mind as it is a “hook” with which the brand is attached to the “product ladder” (Trout and Ries 1981, p. 89). Moreover, the name is “the first point of contact between the communication and mind. Not good or bad in it from an aesthetic point of view determines the efficiency of the message, but its relevance” (Trout and Ries 1981, p. 99). Here, the authors have in mind that the reasonably selected name is what in a few words or best in just one word differentiates the brand instantly and creates associations to the consumer for the benefits it offers. Unlike lawyers, marketers and brand managers love to walk the edge and tolerate the creation of names that could describe an entire category at risk to become a generic term and lose their registration. “A strong, genetic-like, descriptive name will block your me-too competitors from muscling their way into your territory. A good name is the best insurance for long-term success” (Trout and Ries 1981, p. 91). Classic examples of the successes of the name are *Scotch* and *Xerox*, which are doomed to be “top of mind” (both the top “step” and the name of the whole “ladder”), but their position has its weaknesses, because under these brands they could not sell anything else.

The famous French advertiser Jacques Seguela builds his idea of establishing brand identity along the lines of human beings¹⁶—as a combination of *physique, character and style* (*Holy Trinity of the Brand*, Seguela 2004, p. 142, see Fig. 15.6). First, we turn the product into a person and then the person into a star.

- By *physique*, we understand the product itself, without which there would be no commercial success. But if it is relied only on its lifeless offerings in the store, which means its purchase to turn into an automatic act, deprived of real choice and emotion. When developing a “star,” patient observation is required to filter out the exclusivity that will bring competitive advantage. For this purpose,

¹⁶ “The product is also born.... The product grows up and starts to make a living. We measure its height not in centimeters, but in conquered percents of the market. (...) Above all, the product is able to communicate. As we create its brand, we give it the gift of speak” (Seguela 2004, p. 48).

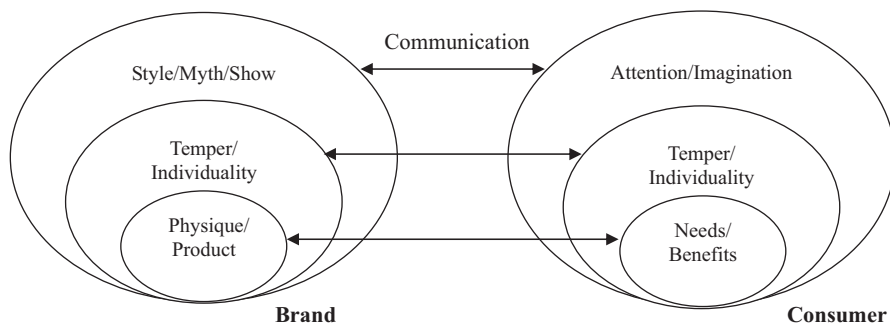
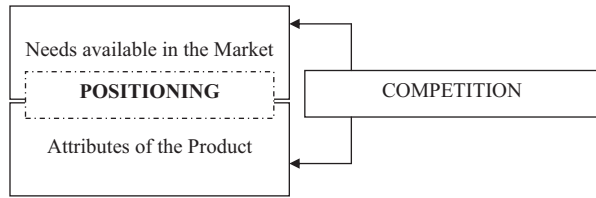


Fig. 15.6 An illustration of J. Seguela's comparison between brand structure as he suggests it to be and relevant consumer's perception (author D.T.)

Seguela and his colleagues used the so-called Chinese portrait, which aims to simultaneously provoke the imagination in terms of the product and to identify its target group (2004, p. 242). The questionnaire concerns key issues such as strengths and weaknesses of the product, the meaning of its existence, in what circumstances it will be used, who will buy it and how often, with which car, shop, animal, or star of show business it can be compared, etc. For the accuracy from the physique point of view, it is important because the alleged qualities of the product must not be imaginary, but completely real and visible, to generate purchases. According to Seguela, the good advertiser could make up for the weaknesses of the product qualities in the eyes of buyers.

- The *character* of the brand is what the Marlboro cowboy represents—a collective and intelligible image of the spaciousness, adventure, and freedom. He generates these associations regardless of the context in which he is placed, even without holding a cigarette in his mouth (2004, p. 80). The “star” brand is completely understandable, because the audience “wants to get simple answers to their simple motivations” (2004, pp. 121–122). It is based on the desire for identification inherent to all consumers and aims to extremes, recognizing that it is dominated by passion and strives to the perfect. In Seguela's words that represents honesty in front of the buyer, which ensures durability of the relationship and allows the brand to sell countless times. In this regard, the character suggests the presence of symbols, which means that the brand must have a public image and must be filled with interesting stories. “The quality and low price are the least they require [the consumers—D.T.] from a brand. In addition, they want to receive an offer to escape to the world of dreams” (2004, p. 129).
- *Style*, in turn, is the manner in which the brand is communicated. Here, the French advertiser pays tribute to symbols. They must be unique and actively maintain the brand associations, such as the character from the comics of *Michelin*, the specific font of *Coca-Cola*, or like the stylish gentleman with a bandage on the eye—the face of “US Hathaway” shirts. The author adds that the advertising of the “star” must be an endless spectacle, full of surprises for consumers (2004,

Fig. 15.7 An illustration of S. Zyman’s idea of the role of positioning in the commercial communication. (author—D.T.)



p. 136). The ascension over the propaganda noise and media saturation requires the communication of the brand in the first place to be *distinct*, and then *varied*, but without losing focus. Therefore, only the style is “allowed” to change over time and according to the nature of the audience because it is the one element in the “Trinity” of the brand, which is fighting for attention.

In two of his books which gained wide popularity—*The End of Marketing as We Know It* and *Renovate Before You Innovate*—longtime marketing manager of Coca-Cola Sergio Zyman presents his own reading on the topic of market positioning, summarized in the following passage: “The key to good positioning is take control of the dialogue with your customers and consumers early on and never lose it. If you do not, your competitors will do, and this is something you should never allow because whoever controls the dialogue, controls positioning too” (2005a, p. 158).

In fact, for someone from the “kitchen” of management as Zyman, “dialogue” is a continuous process of speaking on behalf of the brand, with which it presents its position in front of the consumers, and they respond with a clear idea of its essence and make choices in its favor. If the brand sends vague and confusing messages and/or deviates from the topic, then customers will dissipate and move away from communicating with it. Their attention to its messages will decrease, brand loyalty will suffer,¹⁷ and hence purchases will suffer, since they will be sporadic (meaning little or none) and they will lack the characteristic emotional intensity.

Control over the dialogue is not restricted to setting clear limits to the audience how far the offer of our brand extends. The market is a community including competition (Fig. 15.7), which means that the statement of a trademark automatically affects the ability of other players in the category for gaining a share. Zyman defines it as a simple marketing principle that we choose or territory for which we will fight on the competitive field, or competitors will do it instead of us (2005b, p. 98). Moreover, the author recommends active offensive actions against enemy positions, using every opportunity to limit the ways in which competitors can be defined by a single characteristic or quality, while our brand in

¹⁷ Led by the widespread economic principle by W. Pareto that 20% of brand-loyal buyers make 80% of the its profits, Zyman warns against practicing horizontal marketing as an end in itself: “Much more effective is to build relationships with customers and then work on people who know you to buy more than every day to search for new customers” (Zyman 2005b, p. 79).

turn expands theirs (2005b, p. 100). Two of the instruments for achieving it are *comparison* and *copying*. In the first case, without a harsh and negative tone, direct comparison (repositioning of the opponent) allows both to highlight the positive aspects of our brand and to set evaluation standards among consumers, which is literally taking control over the dialogue. Withdrawal of members from the competition is possible by repositioning of our brand. Thus, based on newly discovered needs and desires that exist in the target audience, ground for more suggestions is created and more arguments for purchase are put. Further, Sergio Zyman acknowledges the key role of identity in brand positioning. He states that the position is what the management team wants the audience to think and feel in relation to the brand, while the image is the overall impression of it (2005b, p. 94). This is why he has taken part in developing a formula aimed at helping the managerial decision of what position to be reclaimed and what promise is to be given. It states: Define, Offer, Announce it and it will bring you Luck (2005b) where: 1) “Defining” is the basis of the branding process in general leading behind 2) The “Unique Selling Proposition.” Further comes the “Announcement,” i.e., communication which (if created and directed properly) will lead to 4) “Success” because it will reach the mind of the consumer and store the message in his memory for a long time.

15.5 General Conclusions

Positioning is rightly regarded as a constant ongoing process of communication with the target audience, of continuous development and renewal of the meaning of existence of the trademark. It is an essential, even to say the only, task of brand management and it existed no matter if in the course of history managements of the companies practiced it consciously or not. As a sufficiently seriously perceived management process, the clear positioning strategy is both a highly commercial weapon and face of the manufacturing and administrative life behind the product. The existence and proper use of positioning depends on the detailed picture of the senior management regarding the identity of the company as a business core and the desired image that this identity wants to show to the entire audience—competitors, partners, and above all to users. Studying the nature of the positioning concept leads to the following conclusions:

- Brand identity is set by the basic business mission of the company manufacturer, which is indispensable (see Fig. 15.8); *it is the “anchor” around which gravitates any communication activity of the brand to the outside world.*
- The image is the sum of *current associations of the brand*, an image in the mind of the consumer, which is the result of contacts with the brand, the *image belongs to the target audience*, rather than to the management, although it is possible to match perfectly with the identity assigned to it by the manufacturer.

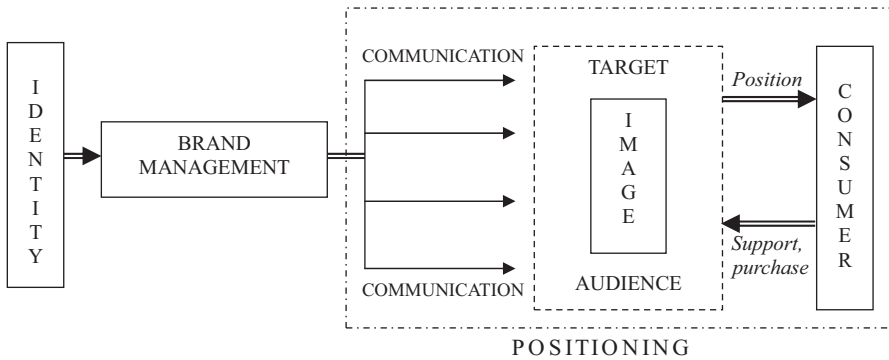


Fig. 15.8 A general scheme of brand communication process. (author—D.T.)

- The difference between the image and positioning is that the second is the *main association* (or a group of semantically similar ones) that each manufacturer wants to have for its own brand in the overall scheme of the image; usually a feature of the brand, which satisfies needs or physiological needs, security, realization or social ones—*Volvo* is “safety driving,” *Nike* is the “spirit of sports,” *Mercedes* is “high class,” *Virgin* is an “underdog,” *Starbucks* is “the third place (between home and office—D.T.)” and so on.
- The intensity and nature of communication with consumers determine *how* and *how strongly* they perceive the brand; they help in forming the attitude towards it.
- The success of brand positioning efforts is a *function of attracting and retaining the user's attention* to its messages; by captivating the consumer's mind in communication, he becomes an active part—he builds the knowledge of the brand by himself/herself and participates in the maintenance of its mythology (see Seguela 2004).
- *The roots of positioning we can find in the identity and its tip—in communication*, both are important enough and must work together to not give rise to a distorted or wrong idea about the place of the brand on the market.
- Positioning with only one word or concept is only possible when it is not isolated, and works aimed at a more integral context; it focuses the efforts of an extensive network of influences from the brand in different channels—merchandising, publicity, promotions, demonstrations, advertising, positive user experience, etc.

15.6 Appendix 1

Virgin Brand Identity (Aaker and Joachimsthaler 2000, p. 46, from Figs. 15.2 and 15.3¹⁸)

Brand essence

Iconoclasm

Core

- **Service quality** (consistent best-of-category quality delivered with humor and flair)
- **Innovation** (first with truly innovative, value-added features and services)
- **Fun and entertainment** (a fun and entertaining company)
- **Value of money** (provide value in all its offerings, never just the high-priced option)

Extended identity

- **Underdog** (fighting the established bureaucratic firm with new creative offerings)
- **Personality** (flaunts the rules, sense of humor, willing to attack the establishment, competent)
- **VIRGIN symbols** (Richard Branson and his lifestyle; *Virgin* blimp and script logo)

Value proposition

- **Functional benefits** (a value offering with quality, plus innovative extras delivered with flair and humor)
- **Emotional benefits** (pride in linking to the underdog with the attitude; fun, good times)
- **Self-expressive benefits** (willingness to go against the establishment; to be a bit outrageous)

Relationship

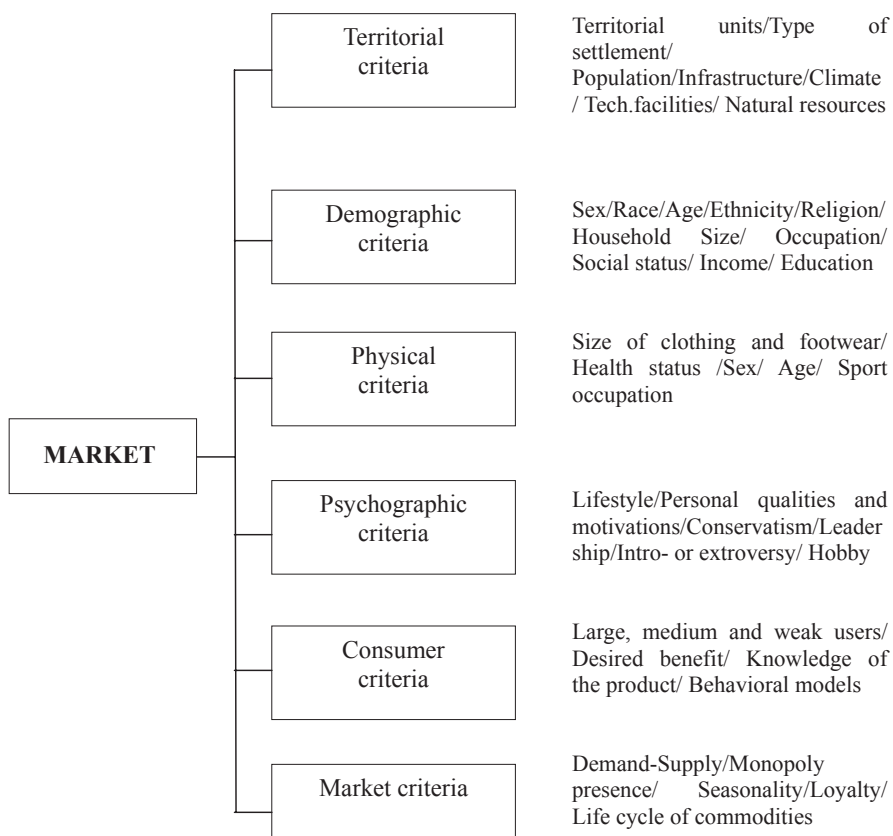
- **Consumers are fun companions**

¹⁸ With some changes; bold is in original text [D.T.].

15.7 Appendix 2

Fundamental Criteria for Market Segmentation

(Sources: Doganov and Palfie 1995, pp. 144–151; Pride and Ferrell 1994, pp. 57–61)



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Dimitar Trendafilov PhD is an Assistant Professor at Southeast European Center for Semiotic Studies, New Bulgarian University (Sofia). He became a member of the unit as a PhD student after his MA graduation in business administration in 2009. In the same year, it was his first conference participation at the 10th World Congress of Semiotics in La Coruña, Spain, and since then he has published more than ten articles in different semiotic topics on Bulgarian issues as well as reputable international journals such as *Lexia* and *Semiotica*. His interests are in brand building and communication, as well as cultural analysis, applied semiotics, and consumer behavior. Along with his doctoral project commitment, Dimitar occupies the position of executive assistant at Socio-semiotic laboratory, dedicated to both students and on-field brand and commercial communication research projects. Since 2012, he has been a full-time lecturer in courses such as “Semiotic studies on brand,” “Lifestyle marketing,” and “Brand management.” “The Brand as an Economic Value and a Sign” is a small but very important product of his research work as a PhD candidate, demonstrating the salient results of the interdisciplinary approach in which semiotics has a key role.

Chapter 16

Understanding the Codes and Assumptions of New Media

Elliot Gaines

16.1 Understanding the Codes and Assumptions of New Media

Narcissus did not know he was looking at his own reflection. The spatial distinction between his body and his reflection in a pool of water was not understood because, while he was enamored by his displaced image, his focus was absorbed by the aesthetic code he was experiencing. Codes are only part of the story; focusing on conventional meanings, interpreters tend to overlook the context of embodied, personal perspectives colored by assumptions and preconceptions. An emphasis on Peirce's semiotic concept of *secondness*, the relationship between a sign and its meaning, helps to explain the inadequacies of code-based social network communication and new media's broader potential for identity and interpretations. In the light of a semiotic perspective, this study explores media as an extension of identity and communication.

16.2 New Media and the Meaning of *Style*

Media technologies are generally regarded as tools for getting things done. People think about technologies in terms of how they and others use various devices, machinery, and equipment. The word *media* is the plural form of the word *medium* that refers to something that comes between other things. In communication, the medium carries the message just as sound carries speech, and the visual symbols of written language represent the sounds used in speech. The semiotic nature of communication is embodied in the relationships between the media of representations,

E. Gaines (✉)
Wright State University, Dayton, OH 20488, USA
e-mail: elliott.gaines@wright.edu

the ideas, events or objects represented, and the interpretations of meanings. So while most media technologies are only messengers, and the focus of communicators is on the meanings of the messages, the function of the medium and its style affect the message.

The term *style* refers to the distinct characteristics that affect the appearance or practices of something that is essentially in a similar category as something else. Signs of style are often used to differentiate meanings based on observable qualities that distinguish people or objects with similar functional characteristics. The style of new technologies affects the message, and the way we experience the impact of communication. Regardless of differences in style, new media continue to develop ways to represent the invisible experiences and natural signs that we process in our minds in order to interpret and share thoughts and ideas about events and objects in our world. Those signs are always affecting our thoughts and feelings, and telling us what to do. The meanings we interpret reveal our understanding of anticipated consequences that the signs represent. In the end, however, new media are extensions of the same capacities humans have used to communicate in the past. So, new media accomplish the same things that the old technologies accomplished, but in new ways that have social and cultural impacts.

Change is not new, but people tend to experience change in their own time as having special significance. In a newspaper cartoon strip from Sunday, October 15, 1933, Mickey Mouse is just finishing writing a letter to Uncle Mortimer. A dialogue balloon over the smiling Mickey Mouse provides his speech; “Well, I’m glad that letter’s finished! But Uncle Mortimer worries unless he hears from me now an’ then!” (Disney 1933, Rpt. in Heide and Gilman, p. 93). Mickey puts a stamp on the envelope, but the stamp does not stick. The next several frames show Mickey getting increasingly frustrated as he tries a variety of creative methods, but fails to affix the stamp to the envelope. Finally, he steps on a stool and uses the 1933 style telephone. Smiling, he says, “Hello! Central? Gimme Long-Distance! I want t’ talk to Mortimer Mouse!” (Disney 1933, Rpt. in Heide and Gilman, p. 93). Mickey’s big smile reflects his pleasure in using the new telephone technology. The wall-mounted telephone with visible bells on top to signal an incoming call, and separate ear and mouth fixtures, represented as radical a change in 1933 as an iPhone 5 did in 2013. Mickey’s verbal message to Uncle Mortimer would be different from what he wrote in his letter just as the spontaneous nature of spoken interaction is different from the formality of written language. It may lack the thoughtful preparation of the letter, but the telephone would connect with the immediacy of speech and vocal recognition, and the excitement of using the new technology.

But beyond the content of specific messages, media are often recognized as extensions of one’s identity in society. Product names are good examples of associations that distinguish economic and social classes. Just think of the major car manufacturers, or different computer-operating systems, and how advertisers have depicted the differences between users of different brands. In contemporary culture, two brands of the same type of product such as a computer, mobile phone, a car, or even an item of clothing will all essentially perform the same functions. At the same time, particular brands can potentially identify the user as being a member of

a distinct class, age, or other demographic. In such a situation, a code exists that establishes associations between the specific product and its users. What emerges is a system of signs that establish meanings among those who understand the symbolic codes associated with the products and users. So meanings are derived not from the object or its functions, but the relationships between the various product brands and social identification. The identity of an individual, then, is based on reflections between objects and the perceptions of other people.

16.3 Identity and New Media

Much of identity is constructed by relationships with others. The whole notion of new media is driven by relationships with others, but much of what motivates users is driven by self-image. Narcissus did not know he was looking at his own reflection. The spatial distinction between his body and his reflection in a pool of water was not understood because, while he was enamored by his displaced image, his focus was absorbed by the aesthetic code of an external object he was experiencing. In other words, he liked what he saw.

Codes are only part of the story because the associations between signs create meanings that are separate from nature or what actually exists. Focusing on conventional meanings, interpreters tend to overlook the context of their embodied, personal perspectives formed by assumptions, established ideas, and preconceptions.

The excitement of using new media is derived from an expression of the self that is extended, or experienced as enhanced by the capacities of the user to accomplish some familiar task. If something can be accomplished faster, better, or easier, a habit of behavior can develop an association between the technology and the task. But the completion of a task is still a *reflection* of the one who performs the action. Enhanced new media will not improve poor writing or an ill-conceived idea, but a media user can become entranced by a new style or mode of technology that can become a code.

Codes are a “systematic organization of signs whose meanings are determined in part by their relationships to other signs within a given context” (Gaines 2010, p. 155). Actions demonstrate recognition of a code used by a culture to know how to respond to particular sign relations. Narcissus rejected the advances of Echo who “tried to win his love with fragments of his own speech,” because the repetition of words uttered by Narcissus did not conform to the code of a linguistic response (McLuhan 1965, p. 41). As McLuhan explained, “the point of this myth is the fact that men at once become fascinated by any extension of themselves in any material other than themselves” (p. 41). The telescope, the wheel, the book, telephone, television, and the computer exemplify technologies that extend what we are already capable of doing, and we become fascinated by the gadgets created to alter and enhance our natural capacities.

Codes conceal assumptions about new media because people generally fail to consider the differences between personal perspectives, and the forms and functions

of communication technologies. Charles Sanders Peirce used a descriptive method to identify the *actual* qualities of a sign as “firstness,” the relationship between a sign and its meaning as “secondness,” and the potential to interpret the relationship between a sign and its meaning from different perspectives as “thirdness” (Peirce 1994, CP¹ 8.332). According to Deely, “Code-based analyses, in Peirce’s terms, reduce to Secondness” or the relationship between the representation and its meaning, but the actual signs must be understood with the potential for multiple interpretations (2010, p. 35). Missing the active nature of *thirdness*, interpreters tend to accept their own point of view without understanding the effect of different perspectives and context on the meaning of a new sign. As Peirce explains:

In its genuine form, Thirdness is the triadic relation existing between a sign, its object, and the interpreting thought, itself a sign, considered as constituting the mode of being of a sign. A sign mediates between the interpretant sign and its object (Peirce: CP 8.332).

The triadic nature of signs means that reasonable interpretation of a sign (or a message) must consider the context of perception. But the media are only messengers and can be ignored as a background obscured by the message content. Likewise, the identity of an interpreter brings an individual perspective, complicated by a personal history of beliefs affecting the understanding of new phenomena.

16.4 New Media Hiding in Plain Sight

Many aspects of media function like the aesthetic code that prompted Narcissus to interpret his reflection, not as an image of himself, but as sign representing an object of desire. The effect of the medium, still water with the mirror-like capacity of reflecting an image, was not understood. The reader of the Narcissus story knows the image in the pool is an index reflecting the subject. But Narcissus, taken by the aesthetic qualities of the image, is fooled by his desire for the beauty he perceives. Likewise, new media can potentially affect the user more than the quality of the user’s capacity for effective communication.

Media can address certain kinds of needs such as access to information, emotional or aesthetic experiences, escape from everyday problems, and linking an individual to a greater community (Lev-On 2012, pp. 100–101). From newspapers and television to *Twitter*, audience members are attracted to media that communicate stories they can identify with from the everyday experiences of their lives. Based on its Greek origins, the word *narcissus* suggests a narcotic numbness (Dictionary 2005). According to McLuhan, all media technologies that extend human capacities numb our sense of the medium itself (p. 15). With media obscured in the background, the user focuses on the content, meaning, and perceived consequences of a message.

Once new media are adopted into normal use, they can hide in plain sight because they are integrated into an elaborate system of signs. Media represent information

¹ References in the text refer to volume and paragraph numbers with a period in between abbreviated as CP.

and stories through words, sounds, and images, and thus construct idealized sign systems that appeal to the user's sense of self. These signs are understood through *codes* built on the relationships between characters and their familiar functions in stories. At the same time, the media users, like Narcissus, fail to recognize their own identities in the narrative code, which is ultimately the strength of media. How many people say they cannot live without their iPhone, Facebook account, Bluetooth, computer interface, or software? People can be numbed by their own dependencies and identification with media technologies.

Peirce explains "that the essential function of a sign is to render inefficient relations efficient—not to set them into action, but to establish a habit or general rule whereby they will act on occasion" (CP 8.332). The habits or general rules that establish codes associated with media use suggest the necessity of understanding the context of a story, the storyteller, and the receiver, as essential to critical understanding. According to McLuhan,

...it is only on those terms, standing aside from any structure or medium, that its principles and lines of force can be discerned. For any medium has the power of imposing its own assumption on the unwary. Prediction and control consists in avoiding this subliminal state of Narcissus trance. But the greatest aid to this end is simply knowing that the spell can occur immediately upon contact, as in the first bars of a melody. (15)

Receivers of communication are concerned with the meaning of a message, but are seduced by the appeal of a story. They seek its meaning and practical effects because they identify with the story, and so the medium is obfuscated by ignoring its effects.

16.5 The New Telephone

The phone is a voice, an ear, an eye, and a memory. It is, in short, an extension of the self. Since it has been liberated from constraints that limited phone use to wired spaces, the mobile phone represents the presence of others, an index to a virtual world without bodies, and a power to command the attention of individuals far from the location of a caller. A global positioning system (GPS) is integrated into mobile telephones and alters the way people look for and interpret signs of spatial orientation. It also provides government and corporate global surveillance of individuals. As a new technology, the mobile phone represents access to information, social institutions, entertainment, and other unique characteristics and services.

Interestingly, texting has introduced a new generation to the joys of writing, even if it is in a limited functional capacity. The formal qualities of letter writing, and the old spatial, temporal, and institutional processes of correspondence, are gone. The efficacy of instant messaging does not demand postage stamps, consideration of delivery times, or formal codes of language construction. The text, Tweet, and other social networking platforms have generated their own codes and grammar that allow for the barest of communicative necessities beyond the technology, access, and the new protocols. The telephone is now a portable library

for information and entertainment, all things represented through digital sight and sound. Still, the telephone is a potential index to alternate identities, consequences, and meanings.

On July 4, 2012, a huge crowd of people assembled to enjoy a traditional American fireworks display in my local community. As the rockets began bursting overhead, a great number of people in the crowd were watching the display on their mobile phone screen as they shot photos and video.

Like speech and writing, the mobile phone is an extension of identity used to share moments of experience with others equipped with compatible technologies. The mobile phone becomes an extension of the memory, recording and storing events for future reference. Attending to the device, the user sacrifices the experience of being absorbed in the event. A considerable level of attention must be focused on operating the technology, even in its remarkable simplicity. The commitment to record and share the visual experience trumped the experience of being there and just watching the show.

On the college campus in recent years, it has become unusual to see a person without a cell phone in use. The phone in hand is a robotic extension of the identity of the user enabling communication and assimilation. Often people are doing two things at once as they walk, drive, or attend a class. Inter-personal communication is not determined by location, but by the technology that makes spatial concerns irrelevant. The individual connects to and assimilates with a community, extending the self by virtue of shared technologies.

The time and attention necessary to use the mobile phone indicate an overpowering desire to be in communication with someone at a distance beyond the range of natural speech. Numb and seduced by the device, the user takes the current place and activity as secondary. The arguments supporting the importance of mobile phones for emergencies, or to be available to complete business-related and professional communication needs are certainly good reasons to use this technology. But if the mobile phone is most important for emergencies and business, most people are probably communicating about more banal topics most of the time. New media, based on computer and satellite technologies, support mobile applications that provide a form of community interaction, a means of assimilation, and a sense of immediacy. Community is not dependent on proximity and has been continuously changed by innovation in transportation and communication.

16.6 *The Big Sleep*: Telephone Lies, Identity, Time and Space

The 1946 detective movie, *The Big Sleep*, is based on a book by Raymond Chandler, and stars Humphrey Bogart and Lauren Bacall (Hawks 1946). Despite some obvious flaws in the plot, and poor reviews from critics when it was initially released, the film has endured as a compelling cinema classic. The film noir delivers a fiction narrative grounded in a post-World War II zeitgeist including period language codes

referring to food rationing, and lots of drinking and smoking. The telephone was in common use at the time and plays an important role as a narrative device tying together issues of communication, space, time, and identity.

The telephone is used as a narrative device on 14 occasions throughout the film in less than 2 h. Traditional telephone protocols include personal identification, location, and a statement of purpose. The first phone call in the film is initiated during a confrontation between the main characters played by Bogart and Bacall. With the two of them together in Bogart's office, their interaction spontaneously becomes a prank call to the police when they provide false identities and amuse themselves by talking nonsense. Counting the prank call, the phone is used to communicate lies on five occasions. In one conversation, Bogart confronts Bacall about her lying to him on the phone. Bogart then lies about his own identity, posing as an official police investigator trying to get information on the phone. During another call, he lies in order to take advantage of time and space to mislead the bad guy. Two conversations were concerned with how far away the nearest phone was because the distance to the phone determined how much time the protagonist had for the next strategic plot development. The remaining calls all advanced the narrative by communicating issues related to identity and location.

These examples demonstrate that the screenplay writers, William Faulkner, Leigh Brackett, and Jules Furthman, used the telephone as a narrative device to identify characters, communicate lies, and advance the story in consideration of space and time. Realistic film representations imitate conventional telephone use to extend the voice and the ear to share information over long distances, or to create deceptions.

16.7 The Codes and Assumptions of New Media

Media appeal to the desires and assumptions of an individual's sense of identity. The codes implied by media have iconic qualities that pose as a form of institutional authority as if reading something in the newspaper, or on the Internet, or seeing it on TV, somehow makes it true. Wikipedia, for example, can supply valuable information, but the accuracy and authenticity of such a source are inconsistent. But the same can be said for other sources unless they can be verified. Semantic fields (demonstrate *secondness* and) build associations between words, names, images, and narratives that rely on codes to evoke emotional responses more powerfully than critical reflection. Social protocols of traditional phone calls require the identification of participating parties, but lack veracity as indexical signs as Americans have learned from telephone call-in services based in Asia where the adopted name of a speaker is Bob or Susan. Social media index virtual communities, but content beyond the association of individuals may lack substance. The medium itself is taken for granted like the pool of water that acts as a mirror. The practical consequences of a message are always a reflection of the interpreter. New media in the future will do old things in new ways that potentially conceal its effects, while appealing to codes and habits of interpretation.

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Elliot Gaines, Ph.D. is professor of communication at Wright State University in Dayton, Ohio. His research focuses on understanding media, culture, semiotics, and communication, and he is the author of many research articles in a variety of scholarly publications. His book, *Media Literacy and Semiotics* (Palgrave Macmillan 2010), provides a deep and practical understanding of media and semiotics, a discipline exploring the structures, patterns, and categories that represent communication and meanings. Before entering academic life, Gaines had more than 20 years of experience in performance and media production. His early career included jazz and folk music performance, and writing and producing for advertising and public relations.

Chapter 17

The Semiotics of Innovation

Massimo Leone

Maeterlinck uses the expression 'The Spirit of the Beehive' to name the powerful, enigmatic and paradoxical force that the bees seem to obey, and that the reason of man has never come to understand. (Victor Erice, in an interview on his movie 'El espíritu de la colmena' [The Spirit of the Beehive], 1973)

17.1 Introduction: An Epiphany on the Semiotics of Innovation

In 2012, at the London Semiofest, I was asked to participate in a round-table on “How to Become a Semiotician”. Still partially jet-lagged from an overhaul flight, I sat in a Kensington Mexican restaurant during the coffee break before the round-table, and jotted a Decalogue about “How to Become a Semiotician” on the receipt of my *orchata*:

1. You shall study semiotics; choosing a good university course with a good teacher; reading books, articles, and essays; going back to the classics, avoiding compendiums, readers, and also most online materials: They are not good (for the moment).
2. You shall practice semiotics, initially through purposeless analysis, through interpretation for the sake of interpretation, and annoy your friends with semiotics.
3. You shall befriend other semioticians; meeting them regularly not only on the web but also in congresses, symposia, and colloquia; and remember to celebrate semio-festivities.
4. You shall not turn semiotics into a rhetoric; semiotics' purpose is to help other people to understand meaning, not to convince them that you understand it better than them.

M. Leone (✉)
University of Turin, Turin, Italy
e-mail: massimo.leone@unito.it

5. You shall not turn semiotics into magic; semiotics is a discipline, one should be disciplined in learning and in practicing it.
6. You shall not turn semiotics into religion; semiotics is only one out of a multitude of options; respect other disciplines and ask respect from them.
7. You shall not turn semiotics into science; let us face it: Semiotics is part of the humanities; thank god meaning will never be ruled by the laws of necessity.
8. You shall not turn semiotics into mystery; if nobody understands you but other semioticians, you are a failure.
9. You shall not turn semiotics into bar conversation; if everybody appreciates you except other semioticians, you are a failure too.
10. You shall not be worried that your mother does not understand what you do; most people who do new things have sceptical mothers.

To my utmost surprise, that piece became one of the most successful texts I have ever written. Saluted by rumbling applause the first time it was read, the Decalogue then became a hit on semiotics forums, generating cascades of comments, and enflamed controversies that I followed with bemusement. When, encouraged by its success, I uploaded the text on my website, I soon realized, with oxymoronic proud disappointment, that it was downloaded more than any of the 300 publications available, including scholarly essays built on rigorous research and multivolume books whose writing had consumed my energies for years.

At some stage in life, one accepts that one is going to be remembered not for what one wants to be remembered for, but for what society mysteriously decides to remember him/her. Only in few cases of bliss the two mnemonic ambitions coincide. Nevertheless, as a semiotician obsessed with the laws of signification, I started wondering about the reasons for the success of the Decalogue. Some of them could be easily accounted for with reference to traditional marketing semiotics. First, my Decalogue went moderately viral because it parasitized the rhetorical form of a previous, tremendously viral text. Second, the semiotic Decalogue was short, easy to read, and relatively witty; round-tables about “How to Become Something” usually generate boring sermons on what one should or should not do; people were, therefore, refreshed by the unexpected parody. Third, the Decalogue took peremptory stances on some controversial issues in semiotics, such as its status among the humanities and the hard sciences; it therefore spurred debate. Fourth, the semiotic commandments fulfilled a need: despite the publication of handbooks and the offering of courses around the world, many anxiously feel that “becoming a semiotician” is still something as exoteric as achieving liberation from karma.

17.2 The Semiotics of Buzz

Nevertheless, I was not completely satisfied with these reasons. Taking a more general perspective on the phenomenon, I started inquiring about what marketing experts define as “buzz”. Buzz is the contagious excitement that precedes and

accompanies the launch of a new product. People start talking about it, sharing information, opinions, and enthusiasm even before the new product is available, on the basis of hearsay that provides only fragmentary knowledge of what the novelty is about. Marketing experts have found that controlling the buzz, through techniques that are meant to initiate, promote, and monitor it, can substantially enhance the commercialization of a product. 2.0 communication, which is reintroducing a sort of secondary orality in mass communication, offers new opportunities to control what seemed before a random phenomenon. Research and literature on buzz is, therefore, growing, with several articles and even a book being written specifically on the subject.

Semiotics can give a fundamental contribution to the study of this phenomenon. First, in understanding the causes of it. Why do people give and take pleasure in sharing excitement about a new product they have consumed or are about to consume? Second, in analyzing the forms of signification and communication through which buzz takes place. Third, and fundamentally, in pinpointing the mysterious dynamics of influence: Why does buzz come about in certain circumstances, while in other contexts does not arise? And can this process be fostered, supervised, and controlled through hard-edged semiotic techniques?

Vice versa, the study of commercial buzz can be crucial for theoretical semiotics as well. Privileging the textual frame and the synchronic approach, semiotics, above all the structural trend, has cultivated an idea of meaning as something emerging from a comprehensive pattern, offering its unabridged fullness to the perception and interpretation of the receiver. This idea, though, based on the stereotypical scenario of the twentieth-century reading of a book, corresponds less and less to the way in which consumers of texts access meaning in their everyday life. Let us consider a classical object of buzz marketing: a new book. Well before readers hold the volume in their hands, they have absorbed glimpses of its narrative, context, and meaning from websites, blogs, social networks, and conversation with friends. They have actually started talking about the new book well before they acquire it, sometimes as if they had read it. Even prior to the printing of the volume, entire groups of people have had time to grow expectations about it, in cognitive, emotional, and pragmatic terms, exchanging bits of anticipations and enthusiasm, and declaring plans of purchase.

Then, when the book is in print, its meaning will keep arising not only from traditional reading but also from the aura that the book will continue emanating in microcommunities. A successful book will be talked about much more than read, and its social meaning constructed through hearsay as well as through exchange among readers. Even those who will have purchased and read the book will retain only partial recollection of it—more and more subjective as the time goes—and these fragmentary meanings will add to the already piecemeal social conversation that bears on the book. In the end, only hardcore structural semioticians and few other text specialists will conceive of the meaning of the book as emerging from its integrity. For the rest of us, the book, as well as any other cultural artifact, will signify like an almost imperceptible melody surrounded by deafening buzz.

Marketers have realized that, under many circumstances, buzz is more important than melody. To continue with the musical metaphor, they have found that melody should not be preceded by absolute silence, so that the first note comes as utmost surprise to everyone. Instead, increasing buzz should pave the way for the musical piece, starting with a timid humming few that only privileged forerunners murmur before the product is out, thickening as the date of release approaches, exploding in thunderous drone once the product is available, and not subsiding at all after consumers purchase it, but rather accompanying its entire commercial existence.

Several reasons might account for the success of this marketing technique: Researchers have pointed out that in a cultural climate where the authority of establishment messages is systematically disputed, viral advertising relying on personal connections emanates an aura of trustworthiness. I am able to sense the body that is transmitting its enthusiasm to me; therefore, I can not only trust its message but also fall under the spell of its excitement. In a way, buzz marketing exploits for commercial purposes the natural human inclination for empathy, which is also one of the controversial traits of this advertising technique. Going back to the example of the book, major US publishers nowadays do not simply acquire the manuscript, edit it, copyedit it, commission a cover, obtain a blurb from a prestigious author, and launch the new title in the market; they rather start creating buzz from the very beginning of the book's life, since the acquisition of the manuscript.

Buzz is generated through personal connections and face-to-face interactions that are, nevertheless, mostly simulated, staged in a way for the purpose of viral diffusion. Advanced reading copies of the book, a concept still largely unknown in continental European publishing, are given around the country to key readers who are known to be in a position to influence other people into reading the same book. It is increasingly the case that particularly influential advanced readers, such as owners of distribution chains, indie bookshops, or managers of large reading clubs, are not simply mailed the forthcoming volume. Rather, an employee of the publishing house dispatches the book to them personally, so as to entice the key reader into the viral network that creates buzz before the diffusion of the volume. In some special cases, even informal meetings with the author will be organized, so that key advanced readers are involved in the mission in the most personal way.

17.3 The Semiotic Ideology of Novelty

“Missionary marketing”, indeed, could be a general label encompassing several techniques of viral and buzz propaganda. The disestablishment of corporate communication in an epoch of generalized institutional crisis cannot be the only explanation for the ease by which enthusiasm for the launch of a new product is produced and produces, in turn, buzz. A fundamental motivation for the efficacy of buzz is that we are witnessing, in this first quarter of the new millennium, not only the emergence of *prosumerism*—a more and more active participation of consumers in the shaping and choice of their elected products—but also of what could be called,

with a neologism, *provertising*, a tendency in which consumers want to have a say, and an emotional rewarding, also in the advertisement and diffusion of the product. If in the first stage of interactivity consumers were given the opportunity to influence the fabrication of products, in the current stage they are granted a chance to embark in a mission for its diffusion. This passage can be effectively accounted for in narrative, Greimasian terms.

In classic advertising, the consumer was a subject upon which commercial communication would bestow the desire of acquiring a certain object. In prosumeristic advertising, the consumer was somehow invited to participate in the process that shapes the product as an object of value. In *provertising*, finally, subjects are freed from their transactional role in the sense that they are invited to play the part of what Greimas calls the addresser (*destinant*), that is, an actant whose narrative function is not that of acquiring an object but of instilling in others the desire to do so. Anthropological motivations for which this mechanism works virally are manifold, but some of them deserve special consideration.

First, *provertisers* do not acquire value only by coming into the possession of an object, in what is a classic pattern of consumption; instead, buzz victims find their identity *by creating other subjects*, that is, by showing other subjects where value is, and by inducing them to acquire it. Narrative semiotics has traditionally focused on the subject and its passions, but has generally neglected the addresser, that is, the agency that stays at the margins of the narrative frame and that, nevertheless, is fundamental for its constitution. Creating desire according to one's own desire means bringing into being a relation of power between the buzz enhancer and the buzz receiver in a chain that is potentially endless and turns around the inexhaustible resource of personal enthusiasm.

17.4 A Double-Edged Approach on Innovation

Depending on its context of application, the semiotic perspective on buzz can be paradoxically double. On the one hand, no discipline better than the science of signification can develop models for the creation, enhancement, maintaining, and monitoring of buzz. This entails abstract narrative models, such as the one exposed above, as well as microanalyses with a more specific focus. Given a certain product, what is its ideal buzz community? What actions can be taken so that buzz is created before the launch of the product? Using what channels and forms of old and new orality? How is it possible to synchronize the rhythm of buzz with the biography of the product, so that its melody is enhanced by the continuous drone preceding and surrounding it? Most importantly, how can one make sure that buzz generates the narrative circle of influence described above? Semiotics, tapping into all the branches and hybridizations of the discipline, can answer these questions more convincingly than any other science.

On the other hand, in its pedagogic version, semiotics cannot give up its critical stand, wondering about pluses and minuses of the cultures of buzz. Communities

that rediscover the pleasure and value of personal communication, of empathically sharing inclinations and enthusiasm, must certainly be saluted with hopefulness, in an epoch where all intimacy seemed lost to the pervasiveness of mediation and simulation. At the same time, as commercialization appropriates and standardizes the new ways of tribal signification, one may wonder whether buzz is nothing but a new trap, one in which consumers are left with the empty enthusiasm for an object which does not exist yet, as they were left before, in classical consumerism, with the empty object for which enthusiasm did not exist anymore.

Semioticians will better occupy the two positions, that of the marketer, and that of the sceptical observer, so as to play both roles more effectively. The development of a comprehensive semiotic theory of innovation is required for this purpose.

17.5 Towards a General Semiotics of Innovation

Old economies sorely need innovation. Europe, for instance, sits on a tremendous cultural capital of historical heritage, service capacity, urban quality, and marketing ability, yet thriving on the past is not sufficient anymore. Globalization and the financial crisis are introducing rapid changes in the world economy, hence the necessity to swiftly adapt old products and methods to new customers and situations. More and more, Europe is forced to flexibility: towards the internal variety brought about by migration and demographic change and towards the new configurations of world capitalism and consumption. However, innovation is not easy to achieve. Whatever the field of activity involved, from cultural management to service design, from urban planning to marketing, one cannot simply rely on what is known, but must explore the unknown searching for new solutions.

Thus far, old economies have looked for innovation randomly, without applying systematic methods and specific professional skills. Indeed, engineering innovation processes are so difficult because innovation involves creativity, and creativity has been often considered as something secret and mysterious, something that you either have or do not have; something that cannot be taught and learnt. On the one hand, both hard and social sciences rarely investigate creativity, and practically do not have any model of it. On the other hand, creativity theories, popular in the 1970s, seldom meet the qualitative and quantitative standards of rigorous research. Nevertheless, old economies need innovation, and innovation needs creativity, and as a consequence, old economies like Europe need a new generation of young professionals to be able to design and implement innovation through creativity in every field of activity. But how is the creativity training of future top professionals going to be possible, if no discipline seems to have solid knowledge about it?

Semiotics can play a fundamental role in satisfying the social demand of innovation and the lack of creativity training in old economies. Halfway between hard sciences and humanities, between social sciences and psychology, semiotics offers a unique point of view on creativity and innovation processes. Semiotics has already produced a great quantity of theoretical insights on creativity and

innovation: Umberto Eco (the distinction between moderate and radical innovation), Jurij M. Lotman (the concepts of borders and their fecundity, the copresence of at least two languages in every culture, the dialectics between the inside and the outside of a semiosphere—that is, culture meant as a macro pattern of signification), and Louis T. Hjelmslev (the continuous variation of language forms) have all offered conceptualizations of the different modalities of creativity and innovation.

First of all, semiotics has an understanding of creativity that can be modelled, taught, learnt, and tested according to quantitative criteria. Uninterested to the romantic idea of creativity as originating from inexplicable genius, semiotics describes creativity as a combinatorial phenomenon. Every human artifact, from the architecture of a museum to a cell phone, from a park to an advertisement, has a structure that combines certain elements and, as a consequence, produces certain meanings. Semiotics provides for theoretical frameworks, heuristic methodologies, and analytical tools, in order to (1) describe such structure; (2) model its functioning; (3) and explain how it combines the elements of a code into a signification.

But semiotics can also do much more: Suggest what combinatorial possibilities of the code have not been exploited, point out what paths of meaning are still virtual, and indicate what steps to take so as to turn virtuality into reality. In other words, the structural and combinatorial perspective of semiotics on meaning offers a method not only for a better comprehension of existent human artifacts but also for the creation of innovative products. Semiotics does not have the keys of creativity, but can certainly show the right door.

Second, semiotics conceives meaning as essentially stemming from difference. Consequently, it has developed a whole series of theoretical approaches, methodological procedures, and analytical instruments in order to describe processes of differentiation. But such knowledge can be used also *to produce* difference, and, therefore, foster innovation dynamics in every field of activity.

Third, semiotics bases its creativity insights not on abstract theorization but on the empirical evidence offered by the scientific study of language. Founded on the principle that every phenomenon of human signification can be investigated as a form of language, semiotics is able to build on the extensive research carried out on creativity processes in verbal language. Exactly as the linguistic mechanism of recursion enables human beings to create an infinite number of new linguistic structures on the basis of a finite number of linguistic elements, so does innovation in every field that proceeds from a recombination of known elements to the production of new results. Nevertheless, for this process to be economically effective, it has to be guided through a rigorous methodology, able to model and test potential innovation before it actually takes place. Semiotics offers such a methodology.

Fourth, semiotics provides a unique understanding of creativity also because it conceives it as a form of communication. In the past, many innovations, from new cultural initiatives to new media technologies, from new urban spaces to new marketing strategies, have failed because they did not take into account the audience to which they were addressed, often because such audience did not exist yet. Saying that semiotics understands innovation as a form of communication means that semiotics is able to model not only the way in which innovation is produced

through combinatorial forms of creativity but also the way in which innovation is received depending on the sociocultural features of its audience. Future innovation professionals will require both models, since they will have to adapt their creativity to the rapidly changing consumption scenarios brought about both by the increasing internal variety of the market and by the emergence of an entire class of new buyers in new economies, mainly in Asia and South America.

This is the fourth advantage semiotics can offer to the comprehension and implementation of innovation processes. Namely through the so-called School of Tartu/Moscow, semiotics has come up with models that describe cultures not only as static systems but also as dynamic patterns (technically, “semiospheres”) that are constantly evolving through mutual interaction. Again, by conceiving cultures as complex languages, cultural semiotics is able to make suggestions about how such or such innovation could be received in a given sociocultural context, for instance about the impact of a new art exhibition on the Chinese audience, the introduction of a new model of phone in the Indian market, the designing of a new square in a Brazilian town, the effect of a viral marketing campaign in Russia, etc.

Fifth, semiotics offers an ideal framework for the study and the implementation of innovation heuristics also because it is quintessentially interdisciplinary. One of the main ideas in the semiotic endeavour is that through exploring unprecedented parallels between distant theories and paths of thought one can bring about novelty. Paradigm shift, as Kuhn understood it, is based on the cross-fertilization of different spheres of knowledge. Semiotics provides for a series of heuristic models able to frame and foster these cross-fertilization attempts.

Finally, semiotics is a key to creativity and innovation training because it is not only the science that study sense but also the discipline that studies the senses, the way in which meaning is actually conveyed through a specific combination of visual, auditive, olfactory, gustative, and haptic (touch) expressive patterns. Detailed knowledge of how the five senses combine in shaping experiential environments will be more and more essential in the markets of the future, which will have to offer and sell not only products but also the experience associated with them.

Although a subfield, such as “semiotics of creativity”, does not exist yet, semiotics has produced a great quantity of insights on creativity when analyzing the meaning and communication structure of the most sophisticated forms of human creativity: literature, the arts, music, cinema, etc. Part of the theoretical and didactic effort of the semiotics of innovation and creativity must consist in a systematic activity of theory mining: Insights on creativity must be extracted from the semiotic state of the art on literary and artistic creativity and remodelled in order to be injected into more general innovation processes. Practicing cross-fertilization, semiotics bids for the possibility of modelling innovation processes after the creativity patterns of the arts.

However, the semiotics of innovation does not aim only at filling a gap in the social demand of knowledge concerning creativity and innovation through theoretic systematization and teaching. On the contrary, it also aims at filling the gap between the academic study of creativity and the implementation of innovation processes in the production of goods, services, and policies. If an old economy wants

to renew itself, it has to reframe its cultural capital through enhanced synergy between the theoretical study of creativity carried on in the academia and the concrete implementation of innovation processes in private companies and public agencies providing goods, services, and practices to both the local and the global audience. In order to achieve such a result, the semiotics of innovation must involve a number of nonacademic practitioners, mainly companies, agencies, and institutions.

17.6 A Case Study: Cultural Heritage in Europe

The cultural heritage of Europe and its capacity to generate economic value are unmatched. European cities are the first destination of global tourism and attract annually millions of consumers, generating profits and employment opportunities. Yet, the management of cultural heritage sorely needs innovation too. Thus far, research and training on cultural heritage has concentrated on its *preservation*, as if the only task of cultural heritage professionals was to protect from alteration the traces of a glorious past. On the contrary, the semiotics of innovation underlines the need to train innovation professionals for the *promotion of cultural heritage* and plans to use semiotic instruments for enhancing creativity in this fundamental sector of the European economy.

First of all, semiotics takes as a point of departure that every definition of cultural heritage stems from a complex negotiation, which determines what human artifacts are attributed special value within a given sociocultural context. As a consequence, the valorization of cultural heritage is inseparable from the various narratives that build its value through reference to the past. A medieval town, an art collection, a wine, or a symphony is part of the cultural heritage not only because of their intrinsic aesthetic quality but also because a series of narratives, shared by an entire community, recognizes such quality. This is why cultural heritage needs to be preserved through its promotion, and perpetuated through its reinvention. New narratives must be produced so that the cultural heritage of Europe remains symbolically and economically vital. The semiotics of innovation can provide the future generation of cultural heritage professionals with the ability to think anew the way in which cultural patrimony is reframed and reinvented for its future audiences.

This is all the more crucial considering the way in which these audiences are evolving. New types of tourists are increasingly exploring the world's cultural heritage coming from the emerging economies of Asia and Latin America. In most cases, though, the old industry of cultural heritage is unprepared to adapt its offer to these new consumers. New, unprecedented ways of presenting and valorizing the cultural heritage of Europe will be needed in the short term. The deep impact of Judeo-Christianity on the arts and the architecture of the Old Continent, for instance, will have to be explained and communicated to audiences with a completely different religious background. Semiotics, with its characteristic expertise in dealing with innovation as a form of communication, as well as in decoding cultural systems, will be able to suggest ways to implement new creative strategies

for the intercultural valorization of artistic heritage. This effort of cultural translation will be required not only to bridge cultures that are distant in space but also to fill the temporal and sociocultural gap between generations: Cultural heritage will have to be presented, explained, valorized, and made commercially profitable also for generations of citizens, visitors, tourists, and consumers with a totally different cultural literacy.

To this regard—and this is the third contribution of the semiotics of innovation to the industry of cultural heritage—the new generations of consumers are less and less interested in a purely cognitive, almost didactic, reception of cultural heritage and are more and more attracted by an experiential relation to it. Tourists who visit cities, for instance, do not want simply to know the history of buildings and monuments as if they were the chapters of a book, but experience the characteristic urban flair of cities, eating what locals eat, drink what they drink, participate in their festivals, and feeling their attachment and sense of belonging. In order to design a new experiential promotion of cultural heritage, creativity strategies are needed, and the semiotics of innovation is equipped to provide them through the characteristic expertise of semiotics in analyzing meaning and its sensorial manifestations.

Fourth, building on the metaphor of smartphones and the technological values they embody, reflection on ‘smartness’ is currently thriving in many environments of both research and production. For instance, designing the ‘smart cities’ of the future is becoming more and more a priority for architects, urban planners, and administrators, meaning by “smart cities” those that use new ICTs in order to enhance their sustainability. The semiotics of innovation must cross-fertilize ‘smartness studies’ with research on cultural heritage and provide training for the design of a ‘smart cultural heritage industry’.

The smart reinvention of cultural heritage will develop along several lines. On the one hand, research and implementation of ICTs for the elaboration of new experiential scenarios: more and more, smart phones and other portable technologies will become fundamental interfaces in the experience of the European cultural heritage; future innovation professionals will have to cooperate with engineers and ICT experts in designing such interfaces in order for them to work as both devices of intercultural translation of—and experiential immersion in—cultural heritage. On the other hand, innovating the cultural heritage industry in a smart way will also entail enhancing the sustainability of activities in the field. Tourism and other cultural heritage-based economic sectors produce income and employment, yet they also bring about considerable externalities, such as environmental issues and the consumerist stereotyping of cultural heritage itself. New strategies of cultural heritage promotion will have to deal with the risks of both environmental and symbolic hyper-consumption. Semiotics can promote reflection on both risks in new terms, starting from its in-depth knowledge of the mechanisms of ‘semiotic pollution’ (the symbolic impoverishment of cultural heritage).

Fifth, having in mind the environmental and symbolical risks of cultural heritage mass industry and consumption, innovation professionals in this field will have to design strategies in order to select their audiences and aim at targets of quality cultural consumption, generating profits but minimizing negative externalities.

Hence, an imperative requirement of the cultural heritage sector will consist in developing strategies able to tailor its offer to the specific sociocultural, generational, experiential, and technological features of future consumers. Again, the semiotics of innovation is entitled to provide training along this line, building on the rich semiotic state of the art concerning the construction of audiences, and the predetermination of responses.

Last but not least, reinventing cultural heritage through creative innovation will also have an impact on the shaping of cultural identities both locally and globally. Semiotic intercultural awareness will be needed so that cultural heritage is reframed in such a way that enhances communication and economic opportunities, while both preserving the specificity of European communities and fostering their mutual interaction.

Attention towards sensory experience, reflection on smart sustainability, and intercultural translation are crosscut characteristics of the semiotics of innovation, which will constitute pivotal training lines also in the other activity sectors singled out by the present chapter.

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Massimo Leone is a research professor of semiotics and cultural semiotics at the Department of Philosophy, University of Torino, Italy. He was a visiting scholar at the CNRS in Paris, at the CSIC in Madrid, Fulbright Research Visiting Professor at the Graduate Theological Union, Berkeley, Endeavour Research Award Visiting Professor at the School of English, Performance, and Communication Studies at Monash University, Melbourne, Faculty Research Grant Visiting Professor at the University of Toronto, and “Marie de Paris” Research in Paris visiting professor at the Sorbonne. His work focuses on the role of religion in modern and contemporary cultures as well on the semiotics of cultural change. Massimo Leone has single-authored four books, *Religious Conversion and Identity: The Semiotic Analysis of Texts* (London and New York: Routledge, 2004; 242 pp.); *Saints and Signs—A Semiotic Reading of Conversion in Early Modern Catholicism* (Berlin and New York: Walter de Gruyter, 2010; 656 pp.), *Sémiotique de l'âme*, 3 vols (Berlin et al.: Presses Académiques Francophones, 2012, 2000 pp.); and *Annunciazioni: percorsi di semiotica della religione* (Rome: Aracne, 2013; 878 pp.); edited a number of collective volumes, and published over 300 articles in semiotics, semiotics of culture, semiotics of religion, visual semiotics, semiotics of law, linguistic anthropology, semiotic anthropology, urban semiotics, innovation theories, creativity theories, and semiotics of everyday life.

Chapter 18

Multimodal Digital Humanities

Kay L. O'Halloran

18.1 Introduction

Interactive digital technologies with facilities for developing conceptual frameworks and storing multidimensional data at different levels of description have the potential to advance research in semiotics (i.e., the study of sign systems and processes). Such an approach, called multimodal digital semiotics (O'Halloran et al. 2013a), involves a “digital semiosphere”^{1, 2} for building theory and analytical approaches for semiotics research, borrowing from Lotman's (2005, p. 208) notion of the semiosphere as “the semiotic space, outside of which semiosis cannot exist.” A digital semiosphere permits the interaction of sign systems in sociocultural processes to be theorized, analyzed, visualized, interpreted, and compared, as demonstrated in this chapter. In this case, the underlying basis of the semiotics research is multimodal analytics, “the study of semantic patterns arising from the integration of language, images, and audio resources in multimodal texts” (O'Halloran et al. 2014b, p. 386). Multimodal digital semiotics, the digital semiosphere, and multimodal analytics move digital humanities (e.g., Berry 2012) into the realm of *multimodal digital humanities*; in this case, “leveraging the potential of the visual and aural media that are part of contemporary life” (Svensson 2010; see also McPherson 2009) for the development of theory, tools and techniques for semiotics research (O'Halloran et al. 2014a; Podlasov and O'Halloran 2014).

In what follows, I describe the multimodal digital humanities research program in the Multimodal Analysis Lab in the Interactive & Digital Media Institute at

¹ <http://semioticon.com/semiotix/2011/02/multimodal-digital-semiotics/>.

² <http://semioticon.com/semiotix/2010/03/multimodal-semiosis-multimodal-semiotics-digital-technologies-and-techniques-for-studying-multimodal-communication/>.

K. L. O'Halloran (✉)
School of Education, Curtin University, Bentley, Australia
e-mail: kay.ohalloran@curtin.edu.au

the National University of Singapore from 2008 to 2013. The research program aimed to develop and use interactive digital technologies for multimodal analysis of different media and to develop computational, mathematical, and visualization techniques for interpreting semantic patterns in the resulting multimodal data. The research program also aimed to develop automated computational techniques for analysis of large cultural data sets, and to develop digital technologies that promote a systematic approach to teaching and learning multimodal literacy and communication skills for the twenty-first century.

In order to fulfill these aims, four research projects were undertaken in the Multimodal Analysis Lab, with the goals of developing: (1) software applications with concepts and frameworks for close multimodal analysis of linguistic, visual, and audio resources in images, documents and videos³; (2) mathematical, computational, and visualization techniques for modeling and interpreting semantic patterns in multimodal data⁴; (3) automated techniques for the analysis of large cultural data sets to investigate sociocultural patterns and trends⁵; and (4) pedagogical approaches to teaching and learning multimodal literacy and twenty-first-century skills (e.g., collaborative work practices, analytical and critical thinking, cultural awareness, and so forth).⁶ These projects (1)–(4) were funded by the National Research Foundation in Singapore (1 and 4), the Asian Office of Aerospace Research and Development (AOARD) under the US Air Force Office of Scientific Research (AFORS) (2), and the National University of Singapore (3). The research program in the Multimodal Analysis Lab adopted a science-based model of research, i.e., teams of social scientists, scientists, computer scientists, and programmers worked closely together on the projects in the laboratory in collaboration with international researchers.⁷ The findings reported below are the result of this collaborative work, which drew upon the knowledge and expertise of researchers from humanities and science disciplines.

The underlying theoretical framework for the research program in the Multimodal Analysis Lab was Michael Halliday's (e.g., Halliday 1978; Halliday and Hasan 1985) social semiotics, which views culture as clusters of semiotic choices

³ *Events in the World: Developing and Using Interactive Digital Media for Multimodal Discourse Analysis* (NRF2007IDM-IDM002–066) (2007–2012).

⁴ *Socio-Cultural Modeling of Effective Influence* (AOARD 094008 & AOARD 10–4107) (2009–2012).

⁵ *Mapping Asian Cultures: From Data to Knowledge* (HSS-0901-P02) (2009–2012).

⁶ *Multimodal Analysis ONLINE* (NRF2012IDM-IDM002–009) (2012–2013).

⁷ The research was undertaken by members of the Multimodal Analysis Lab team: Research Fellows: Sabine Tan, Marissa K. L., E, Alexey Podlasov, Alvin Chua, Yanpeng Cao, Bradley Smith and Stefano Fasciano; Senior Research Fellow: Christel-Loic Tisse; Research Support Staff and Lab Techs: Nizah Bte Ali and Melany Legaspi; Ph.D. students: Sabine Tan, Yiqiong Zhang, William Feng, Victor Lim Fei, Liu Yu and Monica Owyong; Software Developers: Various team members, with particular thanks to Sumit Gajwani, A. R. Mukundan and Anuj Gupta; International Collaborators: Professor Kevin Judd (School of Mathematics and Statistics, University of Western Australia) and Professor Lev Manovich (City University of New York Graduate Center, formerly from Visual Arts, University of California San Diego).

from interrelated sets of systems. While social semiotic theory has been most fully developed as systemic functional linguistics (SFL) (Halliday and Matthiessen 2004; Martin 1992), the aim was to operationalize Halliday's underlying systemic functional theory (SFT) to study the interaction of semiotic systems in social processes using interactive digital technologies and mathematical, computational, and visualization approaches. The SFT theoretical platform and the various research aims and findings of the four projects are described in turn below. In the last section, the challenges and possible future directions for semiotics research are discussed. As will become evident, the multimodal digital humanities approach has significant implications for the semiotics research, particularly with respect to how semiotic behavior can be investigated in an age of digital technology.

18.2 The Multimodal Semiotic Approach

Multimodal studies, a field of research which is concerned with the interaction of language, images, audio and other resources (e.g., embodied action and space) in social processes, has emerged from linguistics and language-related studies over the past few decades. The focus on language, in part a historical artifact arising from the centrality of verbal communication in pre-digital technologies (e.g., printed book, radio, tape recorders, and telephone), has moved towards a focus on language in interaction with other resources in the digital age where communication involving language, images, and videos is commonplace. Today, multimodal studies is largely underpinned by Halliday's social semiotic theory (e.g., Halliday and Matthiessen 2004; Martin 1992; (see Jewitt 2014), although other approaches do exist, e.g., cognitivist approaches (e.g., Forceville and Urios-Aparisi 2009) and interactional analysis (Norris and Jones 2005; Scollon 2001). However, the adoption of Halliday's social semiotics approach in multimodal studies is largely inspired by Kress and van Leeuwen's (2006) and O'Toole's (2011) foundational works which apply Halliday's SFT to visual communication and displayed art, respectively. From these early works, the social semiotic approach was extended to other domains such as mathematics and scientific discourse, education, hypertext, three-dimensional space, and so forth (e.g., Jewitt 2014; Martinec 2008).

The grounds for considering the interactions between language and other semiotic systems are evident; namely that communication, sociocultural processes and culture are realized through combinations of semiotic choices from different semiotic resources. Indeed, semiotic systems do not function in isolation. On the contrary, semiotic systems form part of a larger "meta-system," the system of inter-related systems which define the semiosphere. As Lotman (2005, p. 206) claims:

It may now be possible to suggest that, in reality, clear and functionally mono-semantic systems do not exist in isolation. Their articulation is conditioned by heuristic necessity. Neither, taken individually, is in fact, effective. They function only by being immersed in a specific semiotic continuum, which is filled with multi-variant semiotic models situated at a range of hierarchical levels.

The view of semiotic space as “a unified mechanism” (Lotman 2005, p. 208), where “*specific features of a culture*” [original emphasis] (Lotman and Uspensky 1978, p. 211) are conceptualized as subsets of possible choices, presents considerable challenges for the semiotic analyst, given the sheer complexity and multidimensionality of semiotic behavior. Given these challenges, the most common approach in semiotics research is to make generalizations based on observations and experience, and to demonstrate theoretical insights via selected examples. However, digital technologies can assist with the development of empirical approaches to support and advance theoretical and analytical claims in semiotics research, as envisaged in the research program in the Multimodal Analysis Lab. In this case, software applications for undertaking close multimodal analysis of semiotic phenomena and mathematical, computational, and visualization techniques for interpreting multimodal data were developed in order to provide research tools for semiotic analysts. This research also formed the basis for the development of systematic approaches to teaching and learning multimodal literacy and information and communication skills. In what follows, the four projects undertaken in the Multimodal Analysis Lab are described in Sect. 18.3, before discussing the implications of a multimodal digital humanities approach to semiotics research in Sect. 18.4.

18.3 Multimodal Digital Humanities Research

18.3.1 *Close Multimodal Analysis of Documents, Images, and Videos*

The aim of the first project was to produce a flexible, cross-platform software application for annotating and storing system choices (e.g., linguistic, visual, and audio) in different media, with a focus on dynamic media (i.e., videos and film) which are difficult to analyze without digital tools. The prototype multimodal video analysis software developed in the laboratory contained features which include (a) a video player, (b) a timeline with a filmstrip and waveform, and (c) various facilities for creating system networks (with semiotic choices), entering linguistic transcriptions, drawing overlays on the video frames and making time-stamped annotations for linguistic, image, and video systems using the available system choices. These features and facilities are labeled on the screenshot of the prototype software in Fig. 18.1 which displays the analysis of a news interview from *Happening Now*, a Fox News Corporation program broadcast on 25 November 2009⁸ (see detailed description in O'Halloran et al. 2012). Alternative software for video analysis existed at the time (Rohlfing et al. 2006), but the software developed in the Multimodal Analysis Lab was underpinned by social semiotic theory, and thus contained features and functionalities for creating system networks to undertake systematic

⁸ *Happening Now*, a Fox News Corporation, broadcast on 25 November 2009: <http://video.foxnews.com/v/3945521/illegal-act>.

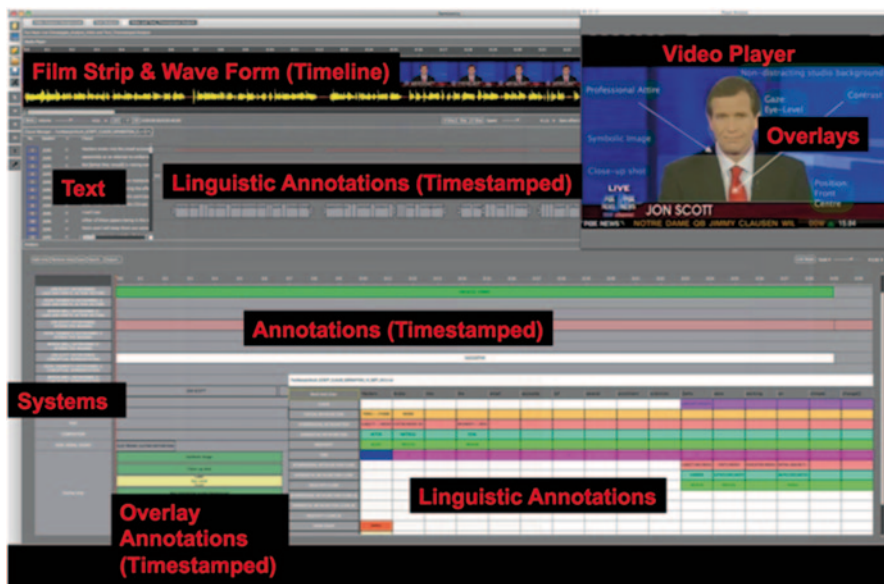


Fig. 18.1 Prototype multimodal analysis software

semiotic analysis, rather than entering descriptive accounts of the video. In addition, the aim was to incorporate automated “media analytics” tools to assist the analyst, e.g., video shot detection, audio silence/space/music classification, tracking, optical character recognition, face recognition, optical flow algorithms, and other basic image enhancement and filtering algorithms (O’Halloran et al. 2014c).

There were two significant outcomes from the development of the prototype multimodal video analysis software displayed in Fig. 18.1. First, the multimodal data (i.e., the linguistic, visual, audio, and video system choices) stored in the database was later extracted, analyzed, visualized, and interpreted using mathematical, computational, and visualization techniques, as described in Sect. 18.3.2.

Second, the prototype version of the software was used in an exploratory study in Singapore schools to investigate how multimodal analysis software can support a systemic approach to multimodal literacy. The findings of this study informed the subsequent development of two commercial software packages, *Multimodal Analysis Image*⁹ and *Multimodal Analysis Video*,¹⁰ for the analysis of text and images and videos, respectively. The two software packages contain a software application, concepts and frameworks, media files, and sample analyses. Facilities in the software permit the user to define systems for the analysis of different genres of text, images, and videos, undertake a multimodal analysis and visualize the results, and export the data for further data processing. The software applications are flexible and scalable for different research and teaching purposes, and the

⁹ <http://multimodal-analysis.com/products/multimodal-analysis-image/>.

¹⁰ <http://multimodal-analysis.com/products/multimodal-analysis-video/>.

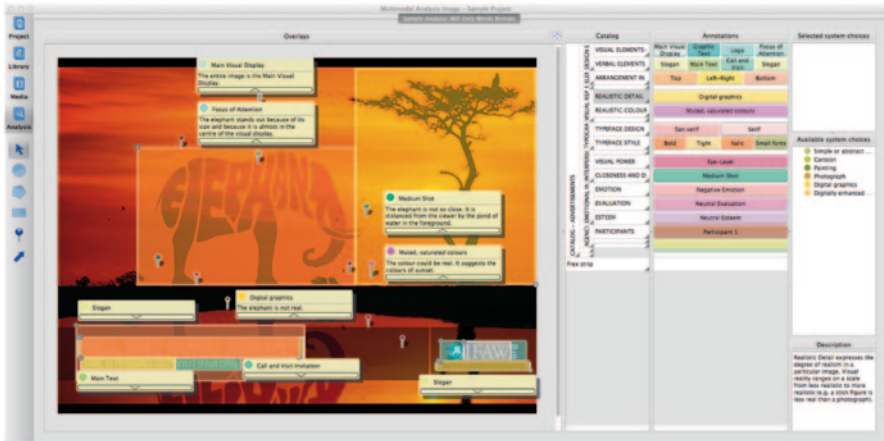


Fig. 18.2 *Multimodal Analysis Image* software

clean, professional design of the software aimed to enhance the user experience. In what follows, the features and facilities in *Multimodal Analysis Image* and *Multimodal Analysis Video* are briefly described in turn (see also O'Halloran and Lim 2014; O'Halloran et al. 2013b).

18.3.1.1 Multimodal Analysis Image Software

Multimodal Analysis Image permits image files to be imported, systems frameworks to be entered, and linguistic and visual elements to be annotated by drawing overlays on the text and attaching system choices. For example, in the International Fund for Animal Welfare (IFAW) advertisement¹¹ in Fig. 18.2, the elephant is the focus of attention (left-hand panel, Fig. 18.2), realized through a range of system choices such as central position, medium shot, size, color contrast, and an out-of-focus background (see systems arranged in strips, right-hand panel in Fig. 18.2). Other system choices, such as the use of digital graphics with words to represent the skeleton of an elephant, muted saturated sunset colors and indirect visual address (where the viewer is positioned as observer), function to raise viewers' concerns about the plight of the elephants. The elephant, rather than being portrayed as active participant involved in some action, realizes a concept with a particular state, i.e., the elephant faces extinction. The analysis is stored in a database for later retrieval and export to Excel for further data processing, visualization, and comparison with other texts. As such, the software promotes systematic analysis of images and texts and critical thinking about the nature of semiotic choices across text types. The software can be used for analysis of any image file, e.g., the architectural design of houses (O'Halloran et al. 2015).

¹¹ <http://www.ifaw.nl>.

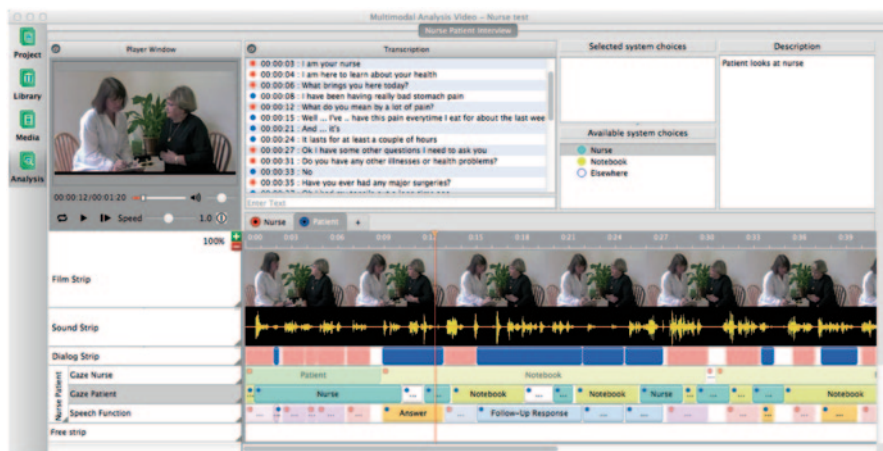


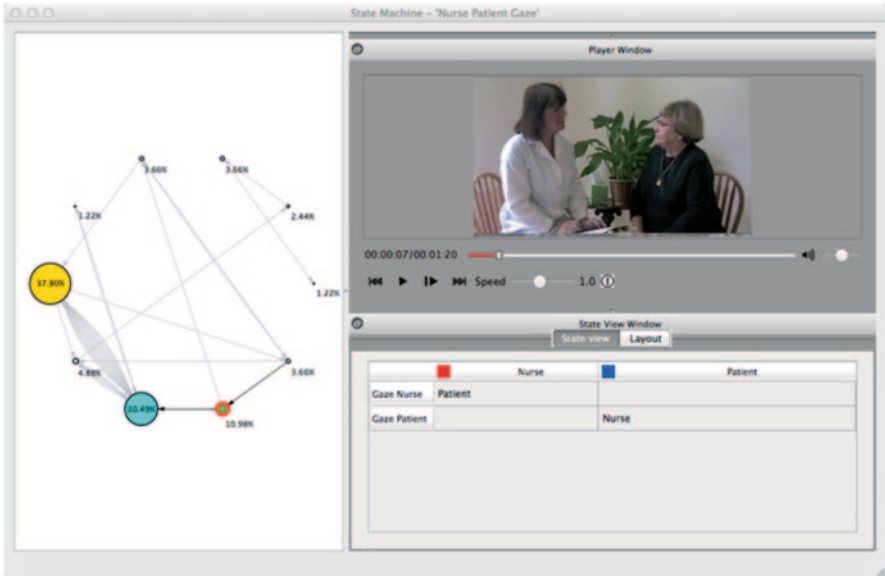
Fig. 18.3 *Multimodal Analysis Video* software

18.3.1.2 Multimodal Analysis Video Software

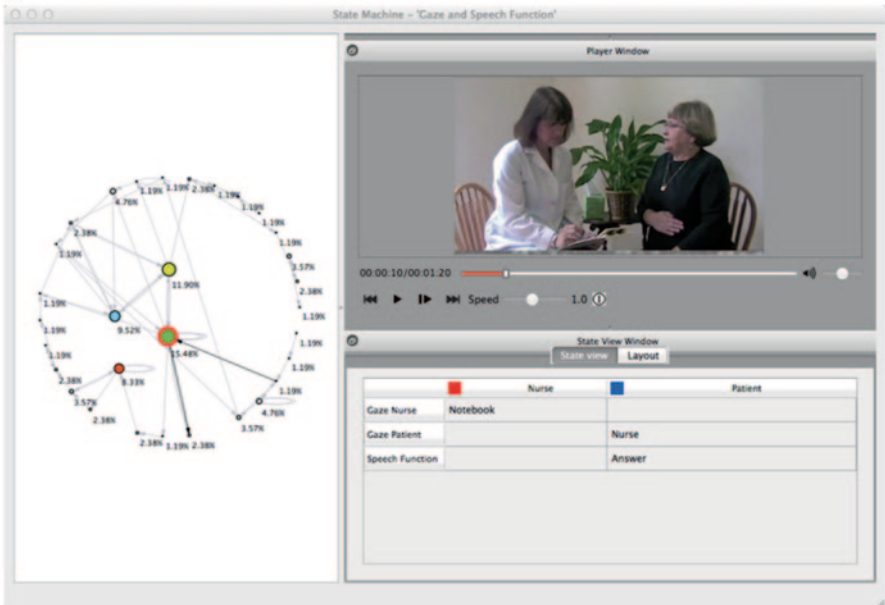
Multimodal Analysis Video has facilities for importing, viewing, transcribing, and annotating videos according to different systems and speakers, as displayed in Fig. 18.3. The analysis is created by entering time-stamped nodes (Fig. 18.3, bottom panel) and attaching system choices from the systems which are arranged in strips (Fig. 18.3, left-hand panel). In this case, system choices for gaze (i.e., direct and indirect) and speech function (i.e., greeting, statement, question, answer, follow-up question, and follow-up response) in a nurse and patient interview¹² have been analyzed and stored in the database.

Combinations of semiotic choices (i.e., “states”) and the movements between these sets of choices (i.e., “transitions”) may be viewed using the “state-transition” visualization tool in the software (Fig. 18.4), which creates interactive and dynamic visualizations of the data extracted from the database, based on criteria which the user enters. The state-transition visualization displays the relative amount of time for the different states (i.e., the semiotic combinations) and the transitions between those states. For example, the analysis of the nurse–patient interview reveals that the nurse and patient interact with direct gaze only 10.98% of the time (Fig. 18.4a). The nurse, for the most part, looks at her notebook, despite repeated attempts by the patient to gain her attention. When the speech function is considered with gaze (see Fig. 18.4b), the most common state is the nurse looking at her notebook and the patient looking at the nurse while answering a question (15.48%). At other times, both the nurse and patient look at the notebook while (i) the patient answers a question (11.90%), (ii) the nurse asks a question (9.52%), and (iii) the patient answers a follow-up question (8.33%). The state-transition visualization is synchronized with

¹² <http://www.youtube.com/watch?v=oHreolyshYY>.



a



b

Fig. 18.4 State-transition visualization tool in *Multimodal Analysis Video*. **a** Gaze for nurse-patient interview. **b** Gaze and speech function for nurse-patient interview

the actual video so it is possible to see where the combinations of choices and the transitions between the various states occur and thus understand how and why the communication between the nurse and the patient breaks down during the interview. The analysis can be exported to Excel so other data analysis and visualization tools can be used to interpret semantic patterns in the video and to compare patterns across different video files.

Apart from the ease of undertaking a multimodal analysis, the key advantage of using *Multimodal Analysis Image* and *Multimodal Analysis Video* is that the database format permits the analysis to be stored, extracted, visualized, and compared to other analyses. The software applications are currently being used for teaching and research purposes in Australia, Singapore, Malaysia, China, Finland, Sweden, and Japan.

18.3.2 *Mathematical and Computational Techniques for Analysis of Multimodal Data*

The use of interactive digital media for multimodal analysis means that the data are stored in a database and, as such, mathematical and computational techniques can be applied in order to detect semantic patterns and trends. For example, *Systemics 1.0*, software, developed by Kevin Judd and Kay O'Halloran (O'Halloran 2003), permits detailed analysis of linguistic texts by attaching tags (i.e., system choices) to words and word groups in the text, as displayed in Fig. 18.5. The analysis can be extracted and displayed as vectors, e.g., a clause (or sentence) can be represented as $C_n = (1, 1, 0, 0, 1, 0, 1, 0, 0, 0, 1, 0, 0)$, where "Cn" is the clause number, "1" indicates that the system choice has been made and "0" indicates that the system choice has not been made. From here, the text becomes a "cloud of points" in a multidimensional semantic space, based on the resulting matrix of vectors.

Mathematical techniques, e.g., singular value decomposition (SVD), can be applied to the complex matrix of vectors to determine the significant semantic features of the text (E et al. 2012). The visualization techniques display the relative strength of significant features of the text as collections of semiotic choices (i.e., tags) using size and color tinting. For example, the analysis of a British Broadcasting Corporation (BBC) report about the hacking of emails at the University of East Anglia's Climatic Research Unit on 19 December 2009¹³ is displayed in Fig. 18.6. The tags (i.e., the significant features calculated by the SVD algorithm) are listed and projected onto the actual words of the text (Fig. 18.6a). In this case, the choices of modality (i.e., probability, usuality, and potentiality) in the BBC text reveal two distinct phases, as illustrated by distribution of the red circles (i.e., modality: e.g., "can," "cannot," "may," "will," "need to," and so forth), compared to the blue circles (subject and verb) in Fig. 18.6a. That is, the modality about the email-hacking incident

¹³ BBC News (Online) article "Hackers target leading climate research unit" 20 November 2009: <http://news.bbc.co.uk/2/hi/8370282.stm>.

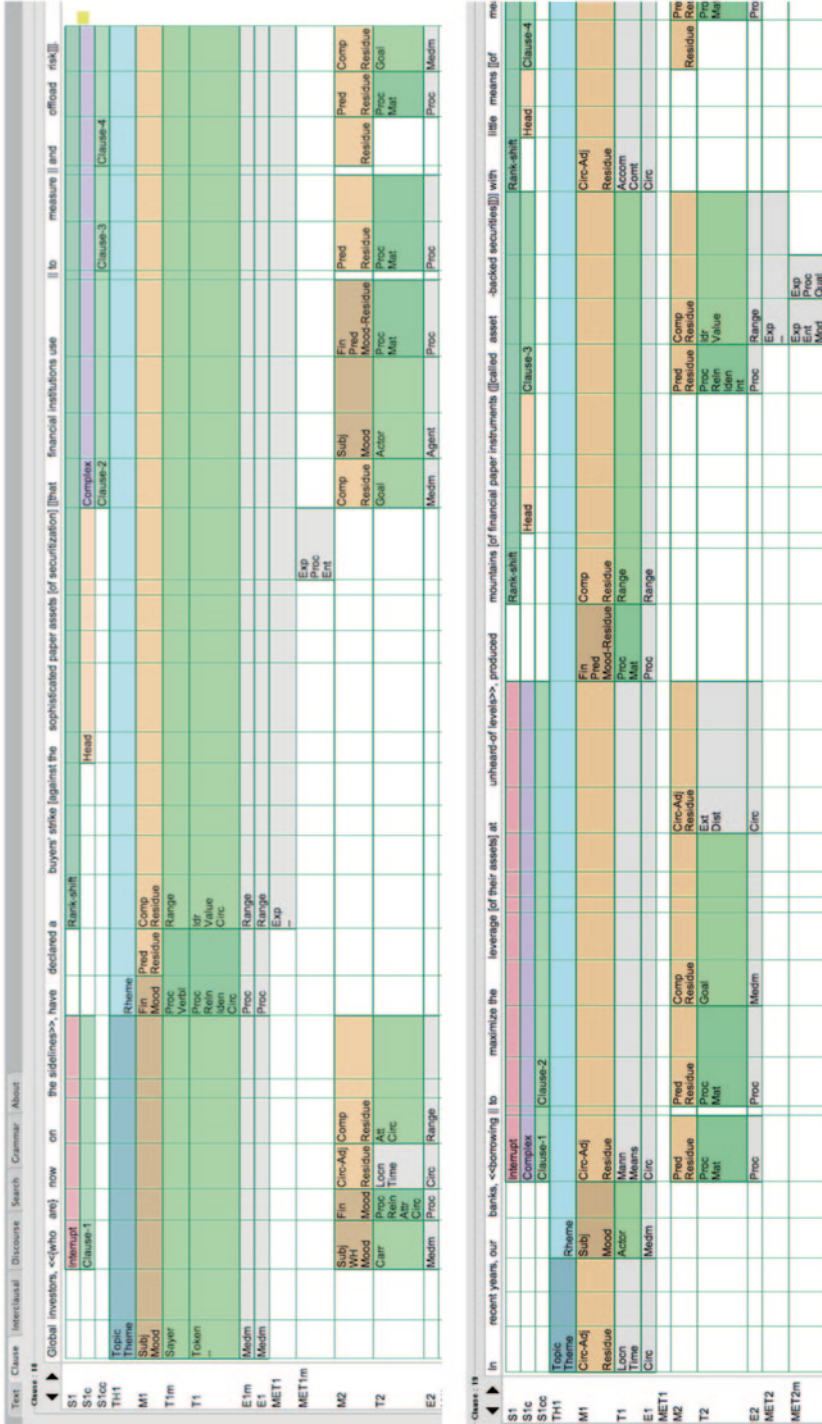


Fig. 18.5 Linguistic analysis for different systems

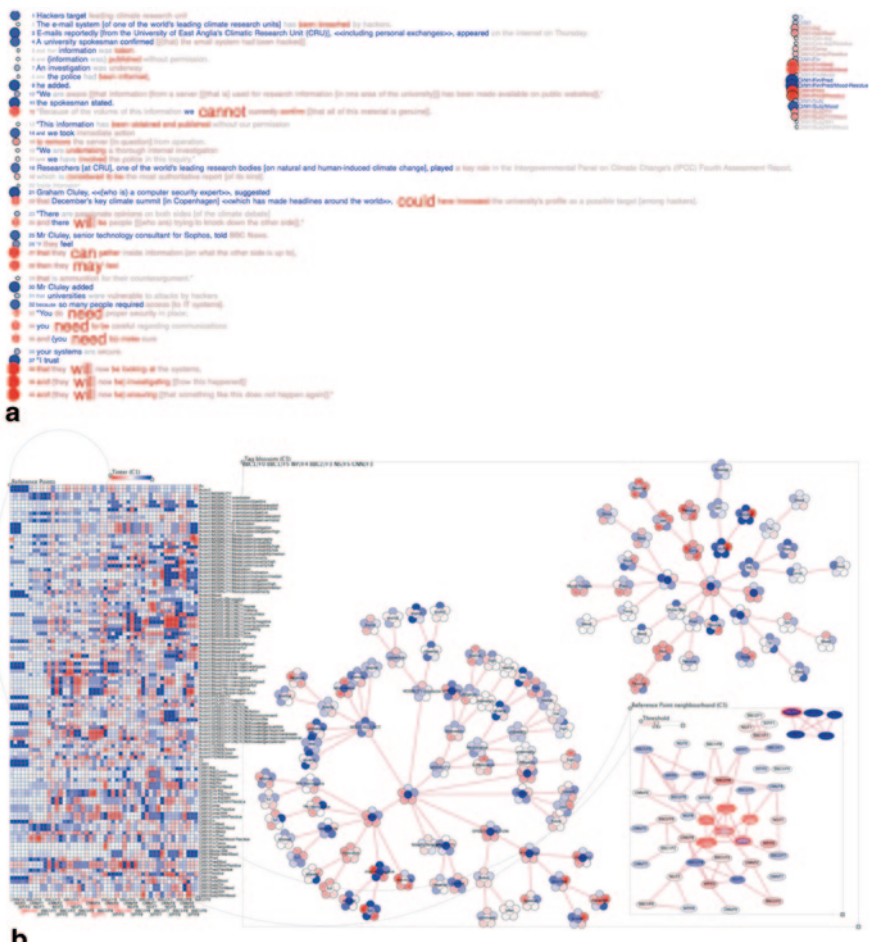


Fig. 18.6 Visualizing significant features. a List and projection. b Groups of tags

is tentative at the start, but the emphasis turns towards necessity (“need to”) and the future (“will”) in the second half of the text. The significant features may also be displayed groups of tags (Fig. 18.6b). These particular features may be compared to other reports of the same incident (e.g., the Fox news interview below), and in general, online news reporting which may show other significant features, such as a focus on the participants, actions, and circumstances of the event being reported.

Mathematical techniques for modeling semantic patterns in multimodal data include clustering techniques to display combinations of multimodal choices (O’Halloran et al. 2014b). For example, the data from the analysis of a 6-min segment from a news interview about the email-hacking incident at the University of East Anglia from *Happening Now*, the Fox News Corporation program (see Fig. 18.1), involving Jon Scott (the interviewer), Kevin Trenberth (climate scientist

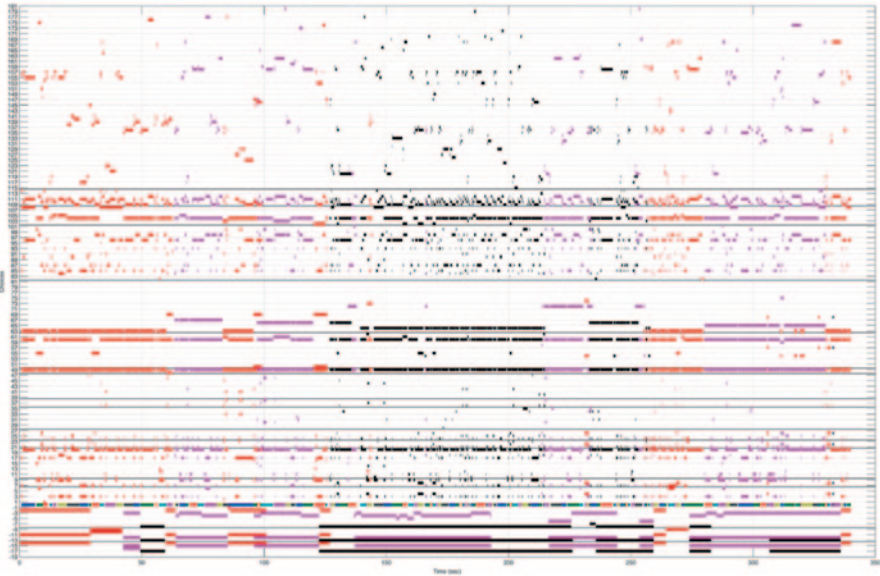


Fig. 18.7 Multimodal semiotic data. (Reproduced from O'Halloran et al. (2014b, Plate 28.1) © 2014 From *The Routledge Handbook of Multimodal Analysis* (2nd ed. by Carey Jewitt (ed). Reproduced by permission of Taylor and Francis Group, LLC, a division of Informa plc)

from the Climate Analysis Section, National Center for Atmospheric Research in Colorado) and Myron Ebell (climate skeptic and director of Energy and Global Warming Policy, Competitive Enterprise Institute in Washington, DC), is displayed in Fig. 18.7. The color codings (red, pink, and black) show the linguistic, image, and video choices for the three speakers—Jon Scott (red), Kevin Trenberth (red), and Myron Ebell (black)—with system choices on the vertical axis and time on the horizontal axis. In other words, Fig. 18.7 is a visualization of the actual semiotic choices as they unfold over time: the presence of a colored line segment indicates that the choice was made during that time, the absence of a colored line indicates that the choice was not made and the color depicts which speaker made that choice.

Although speaker turns are apparent through the color coding in Fig. 18.7, the visualization of the semiotic data is difficult to interpret, given the multitude of choices for language, image, and video systems with different time frames. However, *K*-means clustering (MacQueen 1967) may be used to determine the significant combinations of choices made by the three speakers. For example, the visualization of the clustered data reveals three distinct phases in the interview (Fig. 18.8a), where Myron Ebell appears to dominate the second phase as evidenced by the presence of black line segments. In this case, Myron Ebell's choices function to engage viewers—e.g., conversational continuatives (e.g., “uh,” “yeah,” “now,” and “look”), modal adjuncts and modality choices which intensify his statements (e.g., “will,” “should,” “totally,” “really,” and “simply”) and direct gaze—and he smiles while deriding the climate scientists. Moreover, Myron Ebell's responses

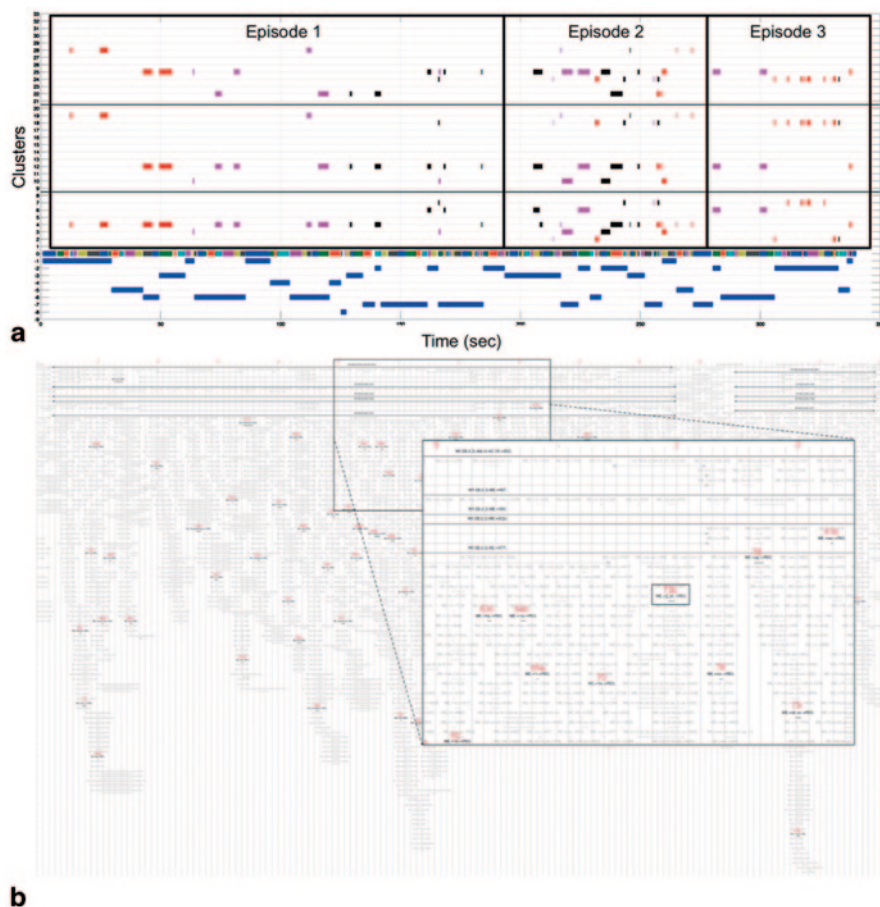


Fig. 18.8 Mathematical techniques for multimodal data. **a** Clustering techniques. (Reproduced from O'Halloran et al. (2014b, Plate 28.3) © 2014 From *The Routledge Handbook of Multimodal Analysis* (2nd ed. by Carey Jewitt (ed). Reproduced by permission of Taylor and Francis Group, LLC, a division of Informa plc). **b** Temporal logic

are relatively simple in terms of organization (unmarked textual organization with conversational continuatives), compared to the more sophisticated organization of Kevin Trenberth's responses which reflect his scientific background (e.g., marked thematic choices and logical conjunctions). Using specific combinations of multimodal choices, Myron Ebell successfully positions himself as the initiator and accuser and Kevin Trenberth as the responder and reactor. As a result, Kevin Trenberth, who takes part in the interview in this office using Skype while Myron Ebell is comfortably seated in a studio with an image of Capitol Hill in the background, loses ground in the interview (O'Halloran et al. 2014b).

The use of temporal logic based on Allen's (Allen 1983; Allen and Ferguson 1994) interval algebra provides further insights about how linguistic, image and

video choices combine over time in the Fox news interview (O'Halloran et al. 2013a). For example, frequently occurring combinations of semiotic choices reveal the significance of Myron Ebell's direct visual engagement with the audience, unlike Kevin Trenberth's gaze which changes during the interview. The analysis of the temporal relations between semiotic choices also reveals differences in the way that the two interviewees construct the email-hacking incident. For example, Myron Ebell selects a wide range of process types (e.g., relational processes, material action, verbal processes, mental cognition, and minor clauses) to create a vivid account of the behavior of climate scientists, compared to Kevin Trenberth, who uses a limited range of process types (relational processes and actions) to make his case. By making his account accessible and engaging, Myron Ebell displays his extensive knowledge and experience of the media, unlike Kevin Trenberth and the majority of climate scientists who presumably do not engage with the media on a regular basis. Significantly, although Myron Ebell has the least amount of speaking time, he effectively controls the discourse and indeed wins the argument in the second phase as Kevin Trenberth ultimately fails to recover ground in the last stage of the interview (O'Halloran et al. 2014b). Further analyses would reveal how climate scientists and others position themselves in interviews and debates using specific combinations of multimodal choices (e.g., O'Halloran 2011).

In summary, the mathematical and computation analysis and visualizations provide an empirical basis for interpreting multimodal phenomena (e.g., documents, images, videos, and events) and comparing patterns across time and place, shedding light on patterns of semiotic activity today.

18.3.3 Automated Analyses for Mapping Cultural Patterns and Trends

Manual annotation of multimodal choices in documents, images and videos is time consuming, even with the use of specialized digital tools such as the ones discussed in the previous section. For this reason, automated techniques for analyzing and visualizing cultural data to study patterns, dynamics and trends were also explored, following a cultural analytics approach (e.g., Manovich 2012). Different computational and visualization techniques were developed in the Multimodal Analysis Lab, ranging from simple basic image processing algorithms to more sophisticated methods for multimodal data. In what follows, five case studies are described in turn.

18.3.3.1 Vogue Covers

The study involved the visual analysis of 2515 covers of *Vogue* magazine¹⁴ published in Europe, the USA, and Asia from 1950 to 2009, where the majority of

¹⁴ <http://www.vogue.co.uk/magazine/archive/>.

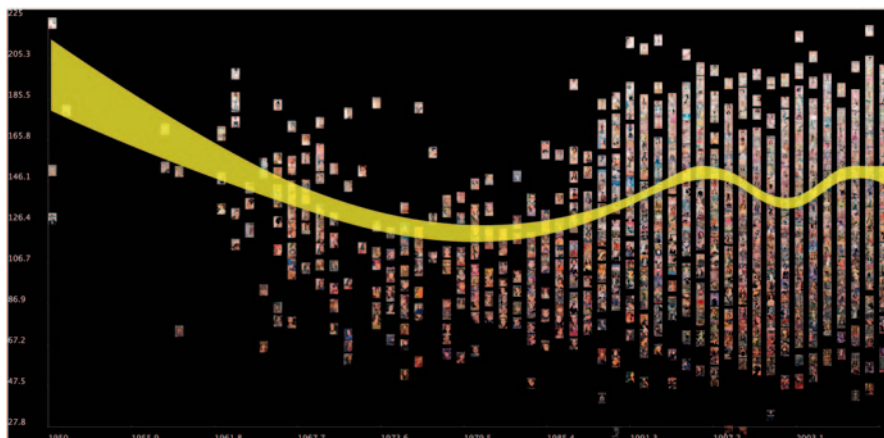


Fig. 18.9 Brightness in *Vogue* cover designs 1950–2009

covers appeared in the 2000s. The analysis involved basic image feature extraction using *VisualSense* software,¹⁵ an interactive visualization and analysis tool that extracts textual and numerical data from images and plots the results over time. For example, the average brightness of the *Vogue* covers from 1990 to 2009 is displayed in Fig. 18.9.

Visualizations of the image features of the *Vogue* covers (e.g., color, brightness, saturation, and textual features) revealed a number of distinct patterns across different countries: for example, a gradual increase in preference for textual details in American covers from 1990 to 2008, a higher-than-average preference for brightness in Japanese covers and an overall tendency towards consistency in the Italian covers. Season patterns in the *Vogue* covers were also noted. For example, the covers from Korea, Russia and Greece had similar curves for brightness over the entire year while the values for Germany's curve were significantly higher. This means that, stylistically, *Vogue* covers from Korea, Russia and Greece share common features, compared to covers from Germany.

Although basic image feature extraction and visualization software (see also *ImagePlot* visualization software¹⁶) reveals interesting patterns in large cultural data sets, sophisticated techniques using state-of-art image processing algorithms were also employed to explore the potential of automated techniques for investigating sociocultural practices and processes. In particular, these techniques were applied to social media and networking sites which have databases with extensive tagged metadata (e.g., date, time, location, and information about the user), as described below.

¹⁵ <http://culturemaps.net/software/visualsense>.

¹⁶ <http://lab.softwarestudies.com/p/imageplot.html>.

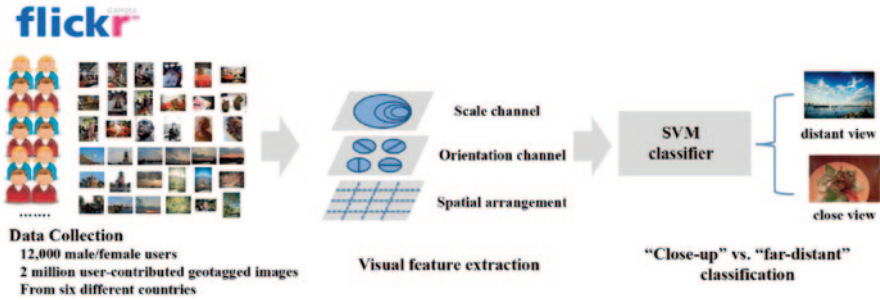


Fig. 18.10 Automatic classification of two million Flickr images

18.3.3.2 Photo-Taking Tendencies

The relations between user demographics (e.g., gender, country of origin, and cultural background) and their patterns of capturing photographs (i.e., close shot and distance shot) were analyzed to investigate cultural patterns and trends with respect to photo-taking tendencies around the world (Cao and O'Halloran 2014). The data was collected by randomly crawling 12,000 Flickr¹⁷ users and choosing 2000 people from the UK, Germany, France, Japan, Singapore, and China, resulting in a balanced sample of 1000 female and 1000 male users. The geo-tagged images contributed by these Flickr users (over two million images) were downloaded and two-dimensional visual features for characterizing image structure patterns (i.e., scale, orientation, and spatial arrangement) were extracted. A trained support vector machine (SVM) classifier was applied to the data to determine the three-dimensional depth of the scene to determine the photo-shooting scale, i.e., whether the photograph is a close-up or distance shot. The analytical procedure, involving data collection, visual feature extraction and "close-up" versus "far-distant" classification, is displayed in Fig. 18.10.

The photo-shooting patterns for different user groups were derived from the automated analysis. In particular, three major user characteristics were studied: (1) gender (male and female), (2) country origin (three European countries and three Asian countries), and (3) geo-location (home and overseas). Twenty-four Flickr user groups were thus identified (i.e., $2 \times 6 \times 2 = 24$; for example, male British users taking photos in their home country). The estimated distances between the camera and the scene were used to model user preferences with respect to close versus distance shots. In this way, the relations between user characteristics and their patterns of capturing photo shots were investigated.

The findings reveal that there is a strong correlation between gender (male or female) and their photo-taking tendencies. That is, female users tend to take more close-up views of objects, whereas male users were more likely to take long-distance shots. For all 24 defined user groups, the average percentage of close-up views is higher for female users, with the largest difference for Germany users taking photos

¹⁷ <http://www.flickr.com/>.

overseas. The photos classified as “close-up” were also examined. As expected, these images mostly focus on elements which users interact with (e.g., children and other family members, pets, restaurant food, and self-portraits). The findings are consistent with studies which show that women’s language exhibits more features identified as “involved” to project personal meanings and identity (Cameron 2007). The findings in this study suggest that women and men follow similar patterns when capturing photos, i.e., women are more likely to select “personal/involved” elements in both word and images. However, as Cameron (2007) claims, gender difference is a complex issue which needs further basic research.

The variations for users from different countries were also examined. The findings indicated that women generally took more close-up images than men did; however, the difference was smaller for users from Asian countries (i.e., Japan, Singapore, and China) compared to Western countries (i.e., The UK, Germany, and France). Considering “overseas” photos, the average difference between male and female users for close-up shots was 7.2% for European users, whereas the difference was only 2.1% for Asian users. The largest difference was for Germany users taking photos in their home country, while the smallest difference appears for Chinese users taking photos overseas. The results suggest that the user characteristics of country of origin and cultural background also influence human photo capturing patterns.

Finally, the relationship between user geo-location and their ways of capturing images was explored; in particular, whether people changed their photo-shooting behavior when travelling overseas. The expected result is that local residents would take more close-up photographs to capture the “involved” elements (e.g., birthday party, family pets, and friends) in their home country, whereas tourists would take more far-distant shoots to record their holiday experiences in an unfamiliar environment. As expected, users take significantly larger number of close-up images when they are in their home countries compared to when they are abroad.

The use of state-of-art visual processing algorithms resulted in an effective and useful framework for investigating the relationship between user characteristics (e.g., gender, country of origin, and geo-location) and their photo-taking tendencies (Cao and O’Halloran 2014). The statistical results provide valuable information for understanding sociocultural practices and advancing basic research for investigating gender and other complex social issues.

18.3.3.3 Flickr Images of Santa Claus

The aim was to investigate how Santa Claus is conceptualized around the world at different times of the year, as evidenced by Flickr images tagged “Santa Claus,” using a framework that incorporated metadata (personal, geospatial, and timestamp data) and image processing techniques (e.g., feature representation, visual topic detection, and image classification; see Fig. 18.11). The study involved the analysis of 12,804 geo-tagged Flickr images with tag “Santa Claus” posted by 2581 different users from 96 countries from 2008 to 2010, with a focus on countries in Asia (Japan, Singapore, and China) and the West (Canada, Alaska, and Nordic countries).

The analysis of Flickr photos tagged “Santa Claus” revealed that while the total number of images was evenly distributed over 2008–2010, the volume of the



Fig. 18.11 Feature representation, visual topic detection and image classification

uploaded Santa Claus images varies significantly across different months. That is, people rarely upload Santa Claus photos from January to October. The number of Santa Claus images starts to increase from November and reaches its peak in December. The largest numbers of Santa Claus pictures are taken in the USA and Canada. The third largest photo collection was taken in the UK, but this is significantly less than the North American countries. Amongst Asian countries, the highest number of Santa photographs was posted in Japan.

The specific tag words people usually use to annotate Santa Claus images were analyzed to investigate what kinds of concepts and events people usually associate with this tag. The most popular tags are variations of names associated with Santa Claus (e.g., “santa,” “santaclaus,” and “claus”) “christmas,” “parade,” “santacon” (i.e., annual mass gatherings of people dressed up as Santa Claus), “December” and the year, and Christmas-related lexical items such as “hoho,” “holidays,” and “fun.”

The images themselves were also examined, and clustering techniques provided information about what kind of objects and events people usually associate with the concept of “Santa Claus” in different countries. For example, many of the Santa Claus images taken in the USA were photos of the Santa Claus character, while the most significant cluster for images taken in Canada involve Christmas parades. Many photos taken in the UK were also concerned with parade activities, however people dress quite differently. More specifically, British users are more likely to wear Santa Claus costumes when they go for parades, while the parade clothing for Canadian users is more casual everyday attire. In comparison, very few photos taken in Germany are about Santa Claus or Christmas parades. Instead, many images are landmark buildings and decorative Christmas lights at night. There were also some distinct image clusters which only appear in a particular country. For example, many Santa Claus images in Italy are related to motorbikes, which are presumably used in Christmas parades and celebrations. Also, many Santa Claus images taken in Finland contain a small wooden cabin; a landmark building, which is the “Santa Claus Office,” located inside the Santa Claus Village in Rovaniemi in Lapland, which is a popular tourist attraction in Finland.

The results suggest that Flickr users from different countries and cultural backgrounds have different perceptions about “Santa Claus” and also they celebrate Christmas in different ways. The methodology developed in this study can be used to investigate cultural differences in relation to other social concepts and constructs.

18.3.4 *Japanese Street Fashion*

Japanese street fashion for young people in Tokyo was investigated by analyzing 2248 color photographs downloaded from Style-Arena.jp.¹⁸ The study demonstrated how self-organizing maps (SOM) and topology learning algorithms can be used to reveal sociocultural patterns and trends; in this case, in relation to street fashion in Japan (Podlasov and O’Halloran 2014). The SOM uses a neighborhood function to preserve the topological features of the color of the clothing worn on the upper and the lower parts of the body. The SOM algorithm produces a two-dimensional representation of the actual fashion space as described by feature vectors computed from the color of the clothing garments.

The automatic arrangement of the photographs into a fashion space (Fig. 18.12a) permits contrasts in Japanese fashion trends to become evident, both in terms of actual and potential color choices (Fig. 18.12b). For example, the majority of Japanese street fashion designs involved black and grey clothes, which contrasted with relatively smaller numbers of white clothes, black-and-white combinations, and even smaller groups of red, blue, tan/brown, and mixed colors. The color green was noticeably absent from Japanese street fashion designs in 2010. The technique developed in this case study permits fashion trends to be traced over different time periods and across different locations, providing information about potential gaps in the market.

An automatic topology learning algorithm was used to arrange the photographs of young Japanese people with a similar fashion look into a network, where clusters are represented by a single photograph (i.e., the node) which best displays the fashion look of each cluster (Podlasov and O’Halloran 2014). The photographs in the nodes were linked to each other through lines (i.e., edges) to reveal the topological structure of the data. The thickness of the frame around the photograph in the node revealed the number of fashion designs in the cluster, and the thickness and numerical label of the edge represent the number of fashion designs which belonged to the path from one node to another. The representative photographs in each node were analyzed using a social semiotic framework for clothing (Owyong 2009). The findings confirmed that Tokyo street fashion favors certain combinations of clothes, most notably black items (e.g., pants, shirt, skirt, jacket, stockings, shoes, tie etc.) which provide a contrasting element to the fashion look. The multimodal social semiotic analysis was interpreted in relation to the cultural history of fashion in Japan and fashion as a global phenomenon.

¹⁸ <http://www.style-arena.jp/>.



Fig. 18.12 Mapping Japanese street fashion. **a** Self-organizing map. (Reproduced from Podlasov and O'Halloran (2014, p. 75) © 2014 From *Critical Multimodal Studies of Popular Culture* by E. Djonov and S. Zhao (eds.). Reproduced by permission of Taylor and Francis Group, LLC, a division of Informa plc). **b** Street fashion examples: pastel colors (*left*) and black (*right*)

18.3.4.1 Social Media: Twitter, Instagram, and Foursquare

The previous four studies involved the automated analysis of images only. To extend this approach to the realm of multimodal digital semiotics, the use of social media in Singapore was investigated. The study involved the linguistic analysis of 98,733 *Twitter*¹⁹ texts and the visual analysis of 301,865 photographs posted on *Instagram*,²⁰ the online photo-sharing service which enables users to take photographs, apply filters, and post the images on social networking sites, collected during October–November 2012 (O'Halloran et al. 2014a). The linguistic and visual analyses were displayed as an interactive map organized according to the venues where the text messages and photos

¹⁹ <https://twitter.com/>.

²⁰ <http://instagram.com/>.

were posted, as recorded by *Foursquare*,²¹ the online location-based social networking service which permits users to post venues using global positioning system in their mobile devices and network locations. The *Foursquare* data are visualized in the interactive map in Fig. 18.13a, which was also used to display the *Twitter* and *Instagram* data.

Given the non-uniform density of data samples evident in Fig. 18.13a, the analytical process involved aggregating the linguistic data and images into cells in a constant density grid which was mapped over the geographical map of Singapore (see Fig. 18.13b and c). The map contained variable size cells calculated in such a way that each grid cell contains 500 or less data records. Automated techniques for sentiment analysis in the *Twitter* messages and face detection in the *Instagram* images were applied using *Synesketch*²² and *OpenCV*²³ to explore how emotion and personal relationships are enacted via social media across different areas in Singapore. The sentiment analysis and face counters were aggregated in the uniform density grid and normalized over the total number of data samples in the cell.

The *Foursquare* venues were categorized using the *Wikipedia* classification tree to provide semantic descriptions of the various types of locations. In this way, a new methodology to investigate the use of social media technologies and the creation of an interactive visualization platform to map the resulting patterns and trends according to social activities in different urban spaces were developed. The use of socially created content from *Wikipedia* to provide semantic descriptions of the *Foursquare* venues permitted the nature of social activities in the different locations to be discerned. The methodology provided robust results, e.g., the emotion vectors and face counters for the industrial and university sectors in Singapore are displayed in Fig. 18.13b and c, respectively.

The results suggest that users of *Twitter* express emotions differentially, according to the nature of the social activity in which they are engaged (e.g., leisure, home, and business). However, users of *Instagram* post pictures of themselves and others, regardless of venue, suggesting that people use photos in social media to construe personal relationships across different social activities. The results are tentative and possibly influenced by the limitations of the computational techniques which have been employed (O'Halloran et al. 2014a). However, "regardless of the conclusiveness of these results, given that the face is the most direct marker of identity and a key resource for expressing emotion, it is not surprising that social media users post photos of faces, regardless of venue" (O'Halloran et al. 2014a, pp. 584–585). The different uses of multimodal semiotic resources (linguistic, visual, and audio) in social media require further exploration.

It has not been possible to provide conclusive evidence about cultural patterns and trends based on these exploratory studies which vary in terms of the nature of the database, the computational techniques which have been developed and applied and research questions. However, automated computational techniques and visualizations provide a productive path forward for investigating culture in new and creative ways.

²¹ <https://foursquare.com/>.

²² *Synesketch*: <http://www.synesketch.krcadinac.com/>

²³ *OpenCV*: <http://opencv.willowgarage.com/wiki/>.

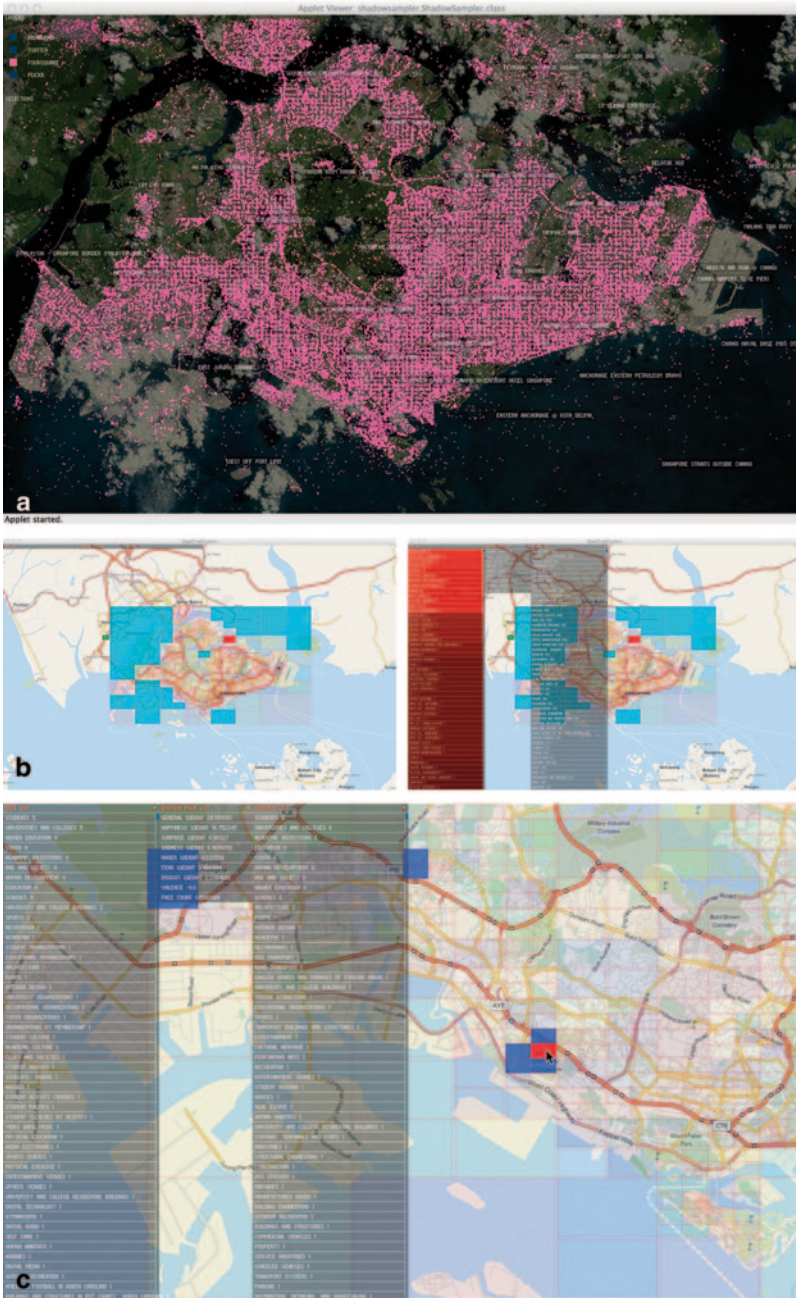


Fig. 18.13 Multimodal social media analysis. **a** *Foursquare* data in Singapore. **b** Industrial sector in Singapore. **c** Aggregated data for universities in Singapore

18.3.5 *Multimodal Literacy and Twenty-First-Century Competencies*

The project aimed to develop web-based software for multimodal analysis of text, images, and videos to assess twenty-first-century competencies in collaborative project work (O'Halloran et al. 2014d). In the first phase of the project reported here, an online environment was simulated using *Multimodal Analysis Image* and *Multimodal Analysis Video* software (see Sect. 18.3.1) and social media technologies Google Plus and Google Hangouts. Students in Singapore schools used the software applications and the chat facilities in the social media technologies to work together remotely to analyze multimodal documents and videos.

The screenshots of the simulated online environment and accompanying chat are displayed in Fig. 18.14a and b. The primary school, secondary school and one junior college participating in the project chose to analyze linguistic text (Fig. 18.14a), while another junior college chose to analyze an excerpt from a film (Fig. 18.14b). Students used Google Plus and Google Hangouts to interact via chat, audio, video, and screen-share facilities as they annotated and analyzed the multimodal texts and videos using concepts, frameworks, and facilities provided in the software.

Students were divided into groups of three or four, with one annotator per group (due to the limitations of Google Hangouts, which allows screen sharing but not shared control over the mouse). The annotator entered the analysis for the text or video and participated in the group discussions using Google Hangouts chat. Non-annotators participated in the discussion via Google Hangouts chat and monitored the annotator's action via Google Hangouts screen share.

The analysis of the chat logs and screen capture videos revealed that while visual and actional resources were used to undertake a limited set of tasks compared to the linguistic choices, these actions were nonetheless critical for the completion of the assigned tasks. Also, qualities such as “multi-tasking, planning and dexterity enable these resources to be used effectively to enact social relations through negotiation and leverage, and at the same time, they can be used or mis-used depending on whether their interaction indicates a visual-verbal reinforcement, or a visual-verbal mismatch” (O'Halloran et al. 2014d).

The project demonstrated that while collaborative project work is possible using online multimodal analysis software, the software must be carefully designed to provide the necessary facilities for group work. The benefits of such an approach is that both the project work and individual student contributions can be semi- and fully-automatically assessed, permitting student profiles to be established over extended period of time. The project also demonstrated the need for educational technologies to be developed by interdisciplinary teams of social scientists, educational specialists, computer scientists, and software developers.

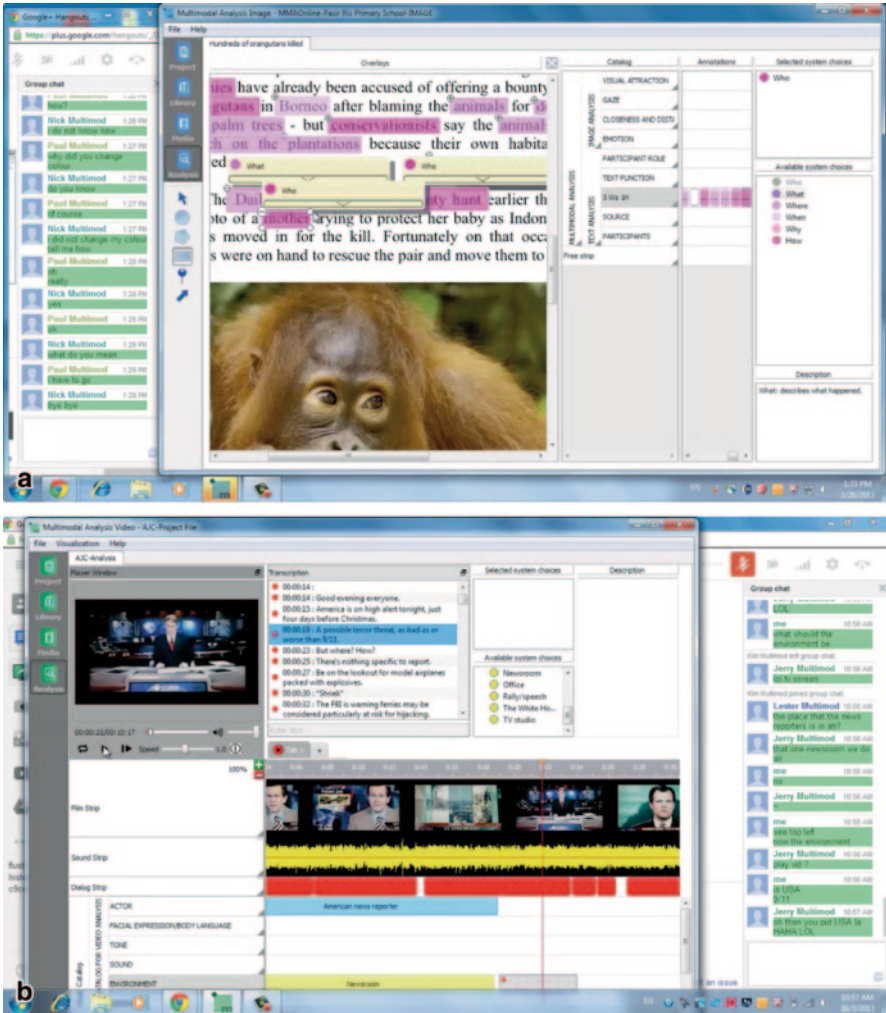


Fig. 18.14 Simulation of online environment. a *Multimodal Analysis Image* and chat (left panel). b *Multimodal Analysis Video* and chat (right panel)

18.4 Conclusion

The development of a digital semiosphere for multimodal digital humanities research involves the development of computational tools and visualization techniques for analyzing semiotic data. The shift to a digital semiosphere has profound consequences for semiotic research, particularly with respect to moving beyond categorical distinctions inherent in language descriptions to dynamic and interactive topological views of semiotic systems and semiotic processes. The research

paradigm involves interdisciplinary collaboration between social scientists and scientists, at least until semioticians are equipped with the necessary computational skills to design and build their own interactive digital technologies.

Multimodal digital humanities can meet the challenges facing the world today, particularly with regard to understanding the nature of political, cultural, and technological change. Such a research program has significant implications for education, health care, urban planning, and defense (to name a few areas) and for understanding issues of cultural awareness, equity, gender and justice, and other complex social issues. The datasets are available, but the necessary tools and techniques need to be developed by research teams with the required knowledge and expertise. In this way, we can understand and interpret semiotic patterns in the world today.

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Kay O'Halloran, School of Education, Curtin University, Perth Western Australia (2013–present) was the founding director of the Multimodal Analysis Lab (2007–2013) and deputy director of the Interactive & Digital Media Institute (2012–2013) at the National University of Singapore. Her areas of research include social semiotic approaches to multimodal analysis, mathematics discourse and the development of interactive digital media technologies and scientific visualization techniques for multimodal and sociocultural analytics. Kay O'Halloran is internationally recognized as a leading research scholar in these fields, as evidenced by plenary and keynote papers at international conferences in Asia-Pacific, Europe and America, plus other invited presentations, seminars and workshops. She has published widely in top-ranking journals, including *Semiotica*, *Social Semiotics*, *Visual Communication*, *Journal of Pragmatics*, *Critical Discourse Studies*, *Text and Talk*, *Cambridge Journal of Education* and *Linguistics and Education*. Her publications include *Multimodal Discourse Analysis* (ed., 2004); *Mathematical Discourse: Language, Symbolism and Visual Images* (2005); *Multimodal Studies: Exploring Issues and Domains* (ed. with Bradley A. Smith, 2011) and *Multimodal Analysis Image* (Resource Book, (with Sabine Tan and Marissa E, 2012); over 60 international journal articles and book chapters and three commercial software applications for linguistic analysis, multimodal analysis of text and images and multimodal analysis of videos.

Chapter 19

Semiotics of Photography: The State of the Art

Göran Sonesson

Semiotics studies the similarities and differences of different kinds of signs and meanings. Thus, it is important to know that the photograph is a kind of sign, that it is an iconic sign, perhaps also an indexical sign, and that, more specifically, it is a pictorial sign. For all those things photographs share with other signs, icons, indices, and pictures, we have to account when discussing these categories of meaning (cf. Sonesson 2010). Here, I will try to pinpoint those properties that are specific to photography. It does not follow, however, that the specificity of photography cannot derive, at least in part, from it being a peculiar kind of icon, or a peculiar kind of index, or perhaps both.

In earlier works (e.g. Sonesson 1988, 1992), I have distinguished three ways of categorizing picture signs: the *constructions types*, i.e. those picture categories which *differ in the way expression and content are related in the sign*, as, for instance, photographs using compact surfaces to stand for the parts of perceptual objects, and outline drawings using contours and pigments to represent the edges of objects in the perceptual world; the *means/ends categories*, which are *characterized by their (socially intended) effects*, as publicity pictures, news pictures, caricatures, pornographic pictures, and so on; and the *channel divisions*, which derive their identity criteria from *the social channels by means of which the pictures are circulated*, as, for instance, picture postcards, posters, graffiti, and so on. Of course, many real-world categories suppose a cumulating of such distinctions, as is notoriously the case with works of art. It should be noted that all these categories are functional, which is fairly obvious in the case of channel divisions and means/ends categories, which derive, in two different ways, from the places occupied by the classes of pictures in the social network. These are extrinsic functions; but from the Prague school point of view, there are also intrinsic functions, such as the sign function, on which our construction types are variations; and to Hjelmslev, the sign function is the essential function.

G. Sonesson (✉)
Centre for Cognitive Semiotics, Lund University, Lund, Sweden
e-mail: goran.sonesson@semiotik.lu.se

The case of photography, however, is peculiar, since, unlike most other pictures categories (except perhaps comics), it has been thoroughly discussed within semiotics in its own right. Some early semioticians, like Barthes and Moles, still admitted a straightforward motivational link joining the two relata of the pictorial sign together, and thus felt the need to demonstrate the exceptionally strong character of this motivation in the case of photography. Eco, on the other hand, treated the case of photography as being on a par with other pictures, which, at the time, he claimed to be as arbitrary as verbal signs; and Lindekens formulated such an argument explicitly, even employing experiments to prove his case. More recently, a third movement has distinctly emerged, suggesting the peculiarity of the photograph to reside in its indexical nature. This is the argument of at least three excellent monographs on photographic semiotics, those of Vanlier, Dubois, and Schaeffer; and the same thesis is hinted at in the works of Rosalind Krauss, Delord, and others. In fact, even Peirce himself entertained this idea in some passages of his prolific but fragmentary work.

Indeed, this at first seems an exceptionally satisfactory solution, believing, as I do, that the photograph is a particular construction variant of the pictorial sign function: the photographic sign would differ from other picture signs, which are mainly grounded in icons, by being based on another one of the three elementary sign types, the index; and this would bring the issue of photography very much to the core of sign theory.

But if we take the idea as far as Vanlier and Dubois have done, we may wonder if there is still something left to account for the common picturehood of the two sign types; in fact, the photographic sign would not really be a variant of the picture sign, but of an altogether different nature. Moreover, even if, following Schaeffer, we take a somewhat more conciliatory stance, declaring the photograph to be an indexical icon, this solution may not really be one: for we are left to account for the differences between photographic indices and all the other indices of which the world is profused in, and of which some may happen to be picture signs other than photographs (cf. Sonesson 1989a, p. 49 ff., 1989b). In particular, if, as Krauss claims, postmodern painting transfers the indexical principle of photography to other arts, then we should have to explain why these works are so far from resembling photographs.

The first section of this essay on photographic semiotics contains a general survey of what has been accomplished so far in this domain. In the second section, I have pursued the question of the indexical nature of photography, as it has been studied in a number of outstanding monographs, which, in the end, I have suggested to be basically mistaken, as was already indicated in a number of my earlier publications.

19.1 A Short History of Photographic Semiotics

Like most other particular strains making up the history of pictorial semiotics, this one begins with Barthes. In fact, Barthes's earliest text treating of pictures (apart from the more casual glosses of Barthes 1957) is a short text (Barthes 1961) en-

titled “Le message photographique”. It is true, however, that already the first line of the article discloses its concern with press photographs more in particular. Also Barthes’s second article on pictorial semiotics, a real classic of the domain, “La rhétorique de l’image” (Barthes 1964a), is about a photograph, the one showing Panzani spaghetti and other kindred products offered for sale in the shape of a market goer’s still life (cf. Sonesson 1989a, p. 114 ff.).

19.1.1 *Some Issues of Barthesian Semiotics*

Both these articles introduce the Saussurean, or more exactly Hjelmslevian, framework of Barthesian semiology, the first being somewhat closer to the source, at least as far as the notion of connotation is concerned. While the first presents us with a series of rather general reflections, resulting from the attempt to apply the Hjelmslevian model of a two-layered semiotic system to pictures, the second is, at least apparently, a regular text analysis concerned with one particular photograph, defined both as to its means/ends category (publicity) and, somewhat more loosely, its channel division (magazine picture). Even the first of these texts (Barthes 1982, p. 11) proclaims the famous Barthesian paradox, according to which the photograph is a message deprived of a code (but the term “photographie” alternates in the same paragraph, as if this were the same thing, with the more general term “image”;¹ and this conception is formulated with reference to the more peculiar phenomenon “photographie de presse”; this being perhaps the only idea which Barthes would still accept in his last book (Barthes 1980), which is also concerned with photographs (but mostly with a more private photographic genre, family portraits) and which is no longer a book of semiotics (also cf. Delord 1986).

No ideas of Barthes’s have been more fateful than his total misunderstanding of the Hjelmslevian distinction between denotation and connotation. As I have shown elsewhere, Hjelmslev is really concerned with a kind of indirect meaning, or contextual implication, resulting from the choice of one expression for a content, when other would have been possible, or from a particular way of conveying such an expression, when others are available (cf. Sonesson 1989a, p. 113 ff.). Barthes, on the other hand, took this distinction to concern subjective versus objective meaning, and this can never be made operational, has been endemic to all of pictorial semiotics, including photographic semiotics, since then.

¹ In Barthes (1964a see Barthes 1982, p. 34 f.) photography, as a message without a code is actually opposed to drawing, which is supposedly three times coded. It is a curious fact that Barthes’s acceptance of a convention theory as far as (all?) pictures that are not photographs are concerned is never noted in the literature, where Barthes is often supposed to be a defender of naive analogism generally. Interestingly, convention is here not identified with the presence of features, double articulation, and the like, as even Eco (1968) initially thought necessary, only to retract himself later (Eco 1976), and as Lindekens (1971, 1976) continued to assume. We will return below to the three reasons Barthes adduces for the drawing being coded.

Fig. 19.1 News photograph from *France Soir*, taken from Lambert (1986, p. 44)



Another idea of Barthes's, which emerges in the second article (Barthes 1982, p. 30 f.), should be noted here: the idea that no picture contains information in itself or, alternatively, that it contains so much contradictory information that a verbal message is needed to fix its meaning (cf. Sonesson 1989a, p. 114 ff.). It has been suggested by Schaeffer (1987, p. 99) that it was because of his having mainly studied strongly organized communicational contexts, such as advertisements and press photographs, that Barthes became convinced of the leading part played by verbal language even in the understanding of pictures; but neither art photography nor scientific photographs would seem to be determined linguistically to a comparable extent, though their interpretation certainly require them to be inserted into some more general background frame, that it to say, assimilated to a selected set of interpretational schemes defined by the particular lifeworld (cf. Sonesson 1989a)²; but there is no need for these to be of a linguistic nature.

Interestingly, even a student of press photographs like Lambert (1986) has voiced his doubts on the subject of this kind of linguistic determination. In the case of one particular picture, he shows that it is really the text that is redundant given the picture, rather than the other way round. Indeed, although the caption of this picture (Fig. 19.1) informs us that one blond girl was elected Miss England, and that two dark-headed girls came out second and third at the election, the picture tells us otherwise; and even though the arrow points to the girl on the far right, we have no

² Also cf. the notion of a "savoir latéral" according to Schaeffer (1987, p. 87 ff.) and passim.

doubt that the winner is the girl in the middle (Lambert 1986, p. 43 ff.). How, then, does this happen?

According to Lambert (p. 45), “la photographie est trop précise, sa mise en scène trop parlante”, but what does this mean? In fact, the dark-headed girl is placed at the centre, and she even stands a little in front of the other two, covering them partly with her shoulders and one arm which is lifted so as to touch her head. These are all gestural indications, present equally in the normal perceptual world. And then, of course, there is the fact of the dark-headed girl being the one who wears the crown. This is a traditional symbol, found also in our real sociocultural lifeworld. Again, the text may actually be of some help also, but in an curiously oblique way: the caption proclaims the girl having a differently coloured hair to be the winner, and on the photograph, there is actually only one individual of the species dark-haired, but two of the species blonds, however much the gentlemen that wrote the caption may prefer blonds, as the saying goes.

It should be remembered that Prieto (1975, p. 193 ff.) also objected to Barthes’s peculiar brand of linguistic determinism in the Panzani article, pointing out that the Panzani picture was really much more informative than the verbal text (but then he included the depicted texts on the tin cans in the picture). Lambert (1986, p. 173 f.) later would seem to make a similar, general point, but in a rather confused way. It is certainly true, in any case, that pictures give us much less *linguistic* information than verbal texts, except in those cases in which the picture itself contains the reproduction of written messages; but the picture contains much more of that information, which, as suggested by our remarks on the Miss England photograph, could be assimilated to the kind of information present in the perceptual world. It is clear, however, that to Barthes and to many of his followers, information itself is conceived to be something that is verbal in nature. But this is not the kind of information intended by the psychologist Gibson, when he claims pictures permit us to pick up the same kind of information that is also present in the real perceptual world (cf. Sonesson 1989a, p. 251 ff.).

19.1.2 *Some Uses of Photography: Publicity*

The two aforementioned articles of Barthes’s, and in particular the latter one, were at the origin of two diverging developments inside semiotics³: on the one hand, *pictorial semiotics*, at first mainly preoccupied with artworks, and notably paintings;

³ What I try to accomplish in this section is, as the title says, a *short* history of photographic semiotics. The only other such attempt I know of is found in Nöth (1985, pp. 427–428), and although the survey is well informed and well written like most parts of Nöth’s handbook, it is extremely short, and it fails to note some of the important problems, and the contributions to their solution; but it is true that most of the latter were published fairly recently, at a time when Nöth had possibly finished editing his book. Indeed, the second edition (Nöth 2000) adds a little about indexicalist theories. Therefore, I will concentrate on writing the history here, and leave most of the comments for later sections. However, I will not abstain from pinpointing the methodological character of the works, as well as the models employed, since this will be of importance later.

and on the other hand, the *semiotics of publicity*, which, besides the pictorial aspects, also attends to verbal and other components of advertisements, but which has in fact been to an appreciable degree concerned with pictures, which, as it happens, are, most of the time, photographic pictures (for an excellent critical survey, cf. Tornero 1982). Until recently, pictorial semiotics has had little to say about photographs, but the semiotics of publicity has been at least obliquely concerned about them.

As a result, most of the analyses pertaining to concrete photographs must so far be searched for inside the domains of the semiotics of publicity, which has also, until this day, been largely derivative on Barthes's achievement, continuing to thrive on his somewhat fragile theoretical contribution. This constitutes a problem, for what is confused in Barthes's works tends to become even more so in that of his followers, and they also inherit his exclusive attention to the content side of the pictorial sign, or more exactly, the extra-signic referent and its ideological implications in the real world, even to the point of ignoring the way in which the latter are modulated in the sign. Much of this would be true of the contributions of, for instance, Dyer (1982), Fausing and Larsen (1980), Nordström (1975; Nordström 1983), Peninou (1966-68), Porcher (1976), Thibault-Laulan (1976), Vestergaard and Schröder (1985), Hodge and Kress (1988), Kress and van Leeuwen (1996), as well as Beceyro (2003). Nevertheless, they should not all be put on the same level: the work of Peninou has the innocence of the early days; that of Porcher contains some important observations, which are unfortunately never developed (cf. Sonesson 1989a, pp. 60 ff. and 282 ff.); Dyer is suggestive, but superficial in his effort to list photographs corresponding each to a different rhetorical figure; and Beceyro (2003), finally, avoids the confusion, because he makes little use of the Barthesian terms; thus, he also avoids all theoretical work, finishing his little book with a eulogy to Barthes.

More original in their approach to publicity photographs are, in different ways, the works of Floch (1981; Floch 1986b), which attend very closely to the plastic organization of the picture plane, in addition to the usual ideological-narrative analysis; Langholz Leymore (1975), whose purely ideological analysis is inspired in a logically reviewed version of Lévi-Strauss's mythological model; Millum (1975), who gives scrupulous attention to all the minute details of the depicted world, including cloths, hairdo, and postures; Nöth (1975, 1977) who discovered the common publicity mechanism according to which contiguity is exchanged for similarity; and Williamson (1978, 1986) who offered many interesting examples demonstrating that also factoriality (the part-whole relationship) may be so exchanged. However, although this latter group steers free of at least part of the confusions of the Barthesian model, it remains a fact that the photographic nature of these pictures is never thematized; and to the extent that any generalized conclusions are drawn, we are left ignoring, just as in the case of Barthes's own work, if they are meant to apply to publicity generally, or to photographically mediated publicity only.

This same Barthesian model, largely extrapolated (and, in the case of connotation, sadly misinterpreted) from the work of Hjelmslev, also re-emerges in the publications of at least two writers more exclusively concerned with photography. In his remarkable exposition of the model, Burgin (1982) in some respects goes beyond Barthes to his sources, and so manages to be more correct in his interpretation than Barthes himself, at least in the sense of avoiding to slip into such nonsensical

examples of connotation as are found in Barthes's articles. In one of his chapters, also Webster (1980) gives a good introduction to what Barthes, in his early work, conceived of as pictorial semiotics, but just as most of the writers quoted above, he introduces even more conceptual muddle in the Hjelmslevian terms. In any case, neither Burgin nor Webster has anything new to contribute, some 20 years after Barthes's articles were written, not even as far as the application of the model to concrete photographs are concerned. Also the works of Hodge and Kress (1988) and Kress and van Leeuwen (1996) are largely derived on the Barthesian heritage. Although many of their examples are photographs, they have nothing in particular to say about this pictorial genre. When it comes to the analysis of ideological aspects, which they rightly take to be fundamental, they are as lacking of a theory as Barthes and his other followers.

19.1.3 Some Uses of Photography: News Photographs

After Barthes pioneering, but rather abstract contribution, the first to direct his attention to the peculiar way in which daily events are reconstructed through the mediation of the photographs appearing in newspapers would seem to have been the Hall (1974), associated with the Birmingham group of cultural studies, who naturally adds a Marxist tinge to the Barthesian framework. Hartley (1982) summarizes much of this conception, while attending more closely to the verbal part of the news. More thorough attempts at analysing particular news photographs, so as to display their constructive mechanisms, are found in some passages by Fiske's (1982) introductions to communication studies; and by Gauthier (1979), who also includes the analyses of a few equally photographic advertisements and magazine covers. Both Fiske and Gauthier compare differently cut versions of a photograph representing the same event that has been published by different newspapers. The contributions of Nordström (1976) could have been very interesting, since it is a whole book concerned with the analysis of a single news photograph; unfortunately, Nordström wastes all this space telling us why he does not like the depicted persons, which he could have done much better if he had not insisted on embroiling himself in the Barthesian terminology. Gubern (1974) offers some acute observations on the nature of photography on the occasion of the publication of some news photographs. As for Hård af Segerstad (1974) who only refers to a few exponents of pictorial semiotics in a note, he develops his own theory of pictorial interpretation, which includes important observations, though the conceptual framework as a whole is difficult to grasp.

There are also a few more recent books, which go further in the sense of building a general theory, which partly goes beyond news photographs to attend to photographs and pictures generally. Lambert (1986) still is very dependant on Barthes's conception, but is convincing in his demonstrations of the ways in which photographs apparently depicting trivial daily events concomitantly function to convey the basic values of Occidental society and of the French nation. Defending the idea of a pictorial language against Barthes, Lambert claims photographs contain two levels of signification apart from their analogical surface: the "effets de réel", which

contribute the illusion of reality, and the mythographic layer, which conveys enduring social values, by means of symbols, relations to other pictures (baptized “intericonicity”), or some simple rhetorical figures, like comparison and antithesis. Lambert’s attempt to distribute these functions in relation to the signifier and the signified, and to connotation and denotation (for example p. 167 ff.), certainly changes completely the meanings even of the first couple of terms; but the model may be valid anyhow, as far as it goes, if we take it as is has been presented on earlier pages of the book.

Lambert’s book derives all (or most) of its materials from the first pages of the French newspaper *France Soir*; but it is of course difficult to know how significant the news items discussed are for the bulk of first pages, let alone those of this single newspaper. Another first page is simulated in one of the advertisement for the cigarette brand “News”, analysed in Floch (1981); and I have discussed elsewhere (cf. Sonesson 1989a, p. 159 ff.; Sonesson 1992) which particular features of the advertisement are responsible for inducing the reference to a first page of a newspaper, in particular to the renowned English newspaper *Times*. It is precisely to the first pages of this latter publication that Espe and Seiwert (1985) have turned in a more thoroughly controlled study of this hybrid pictorial and verbal genre.

The second important contribution is that of Vilches (1983a,b), who employs concepts taken over from Greimas, Lindekens, and many other semioticians in his efforts to come to terms with the ways in which everyday information is pictorially transmitted, in the press as well as in television; but his later book (Vilches 1987), which is more exclusively concerned with press photographs, looks to cognitive psychology and sociology for its theories and methods, and it also includes a number of empirical studies, of the type common in sociology, which treat, among other things, of the differing ways in which photographs are organized on the pages of some well-known Spanish newspapers.

19.1.4 From Propaganda to Pornography

Another important means/ends category in which photographs are prominent is that of propaganda, often manifested in the channel division known as posters, more particularly of the outdoor type, and also as review pictures, perhaps mainly masquerading as news photographs. Apart from the latter type, propaganda photographs have been largely ignored so far. Gubern (1987b, p. 180 ff.) is concerned with posters, but almost exclusively of the publicity kind, and the few political examples included are mostly drawings. Also Nordström (1986) wrote a book-length study of propaganda, which also includes photographic examples, which unfortunately does not contribute anything which goes beyond the generalities visible to any semiotically innocent eye, neither in the trivial remarks on Nazi propaganda, nor in the attempt to discover hidden propaganda in a news item concerned with the supposedly Russian submarines parading along the coasts of Sweden. In fact, propaganda, photographic or not, is a sadly neglected chapter of pictorial semiotics, and I have particular reasons to regret this, if, as I have suggested elsewhere (Sonesson 1987),

propaganda, more than information, is the determining force of so-called information society.

Pornography, another social use to which photographs are commonly put, and certainly of the outmost importance for the understanding of some of the basic symbolic mechanisms regulating contemporary society, has received curiously sparse attention, no doubt because, as a pictorial genre, it is still considered “maudit”, in spite of the fact that nobody can any longer avoid encountering at least its softer forms, in the shape of placards announcing men’s magazines in the streets. That pornography, together with a few other “perverted” pictorial kinds, is more significant than most others for the understanding of contemporary ideology, is affirmed in Gubern’s (1989) book on these genres; but unfortunately for us, the images actually considered in the book are mainly filmic images. There are some marginal remarks on pornography in Barthes’s (1980) post-semiotical treatise of photography, but as may be expected of the Barthes of this late period, they are not of much consequence, for anyone beyond Barthes himself. A straightforward treatment of sexualist ideology as manifested in men’s magazines, is found in the article by Casalis (1975), which, although it involves the Hjelmslevian connotational language in the usual misrepresented way, does contain some acute observations on the mechanisms of sexual thematization. Winship (1980; and to some extent Williams-son 1986) track(s) down sexual meanings as they are used in advertisements in order to transfer social attraction and value to commercial products which themselves may be deprived of them. Also the work of Orfali (1983) is relevant here, since it is as much concerned with Zucca’s photographs as with Klossowski’s drawings; in this respect, as in the others, I have already remarked elsewhere on its theoretical interest, as well as on its drawbacks (Sonesson 1988).

Another pictorial genre, which is of particular interest, since, contrary to most pictures, it involves a “syntax” (in the sense of Barthes 1961; also cf. Schaeffer 1987, p. 96) even at the level of immediately discernible units (which Mounin denies for pictures generally, even in the case of traffic signs) is the photo novella. Unfortunately, however, I can only note two contributions here, the first of which, Sempere (1976), is entirely absorbed into the narrative aspects of the genre, and the ideological values conveyed by the latter, and this to the point of treating the photographs (partly reproduced in the book) as completely transparent. As for the contribution of Chirollet (1983), it is certainly a much more systematic treatise, attending to the peculiarities of the photonovellistic temporality, to the ways in which it differs from the cinema, as well as to its artistic possibilities, but it is also curiously unmindful of the photographs themselves, to the point of containing no illustrations!⁴

⁴ According to Ramírez (1981, p. 220 ff.), who treats the comic strip and the photo novella together, both these are multilayered *connotational systems*, in which the multiple expression planes are constituted out of the entire sign of each lower level. This is of course nonsense: Ramírez confuses the *compound sign* occurrence with connotational language, just as Larsen and Floch do when they identify Barthes’s rhetoric with Panofsky’s iconology (cf. Sonesson 1989a, p. 123 ff.), and analogously to the way in which Barthes, in a quite different context, takes the probabilistic organization of the medical symptom to indicate *double articulation* (cf. Sonesson 1989a, p. 17 ff.). A few brief, mainly historical remarks on the photo novella, may also be found in Gubern (1987a, p. 253 f.).

I have not, so far, mentioned all pictorial categories in which photographs are prominent, but I have probably listed all of which studies have been made. One single exception may be artistic works, which have apparently only been considered by Floch, to whose analyses we will turn further below. Many photographic kinds have thus been ignored: but this only exposes the tender age of photographic semiotics.

19.1.5 The Nature of Photography: Lindekens

Next to Barthes, the single most important figure in the semiotics of photography is (or has at least been until recently) Lindekens (1971, 1973, 1976, 1979), whose early death was an irreparable loss for pictorial semiotics. Although his first book (Lindekens 1971) is explicitly concerned with photography, whereas the second one (Lindekens 1976) claims to treat of visual semiotics generally, both really discuss questions pertaining to the basic structure of the pictorial sign as such (e.g. conventionality and double articulation), and both use photography as their privileged example. It is to demonstrate the conventionality of pictures, and the way they are structured into binary features, that Lindekens (1971, 1973) suggests on the basis of experimental facts (and common sense experience) the existence of a primary photographic opposition between the nuanced and the contrasted: indeed, as the nuances of a photograph are augmented, contrast diminishes, and vice versa; but the same publication (Lindekens 1971) also turns to experiments involving geometric drawings having the function of brand marks to discover the different plastic meanings (which Lindekens calls “intraiconic”) of elementary shapes. In fact, Lindekens would seem to argue for the same conventionalist and structuralist thesis as applied to pictures as the early Eco (1968), but while the latter tends to ignore the photograph as the most embarrassing apparent counter-example, Lindekens from the beginning attacks it frontally—though not necessarily with more success (cf. Dubois 1983, p. 31 ff. and, in particular Schaeffer 1987, p. 32 ff.).

There are indeed good reasons (and we will return to some of them below) not to go along with most of Lindekens’s arguments, but his contributions have always been stimulating, and have posed important problems for later researchers to resolve. In at least two respects Lindekens is exemplary. He has employed all the three methods of semiotics which I have had occasion to distinguish in earlier works (Sonesson 1989b, 2010): philosophical reflections (“system analysis”) and experimental tests, which enter a fruitful symbiosis in his two books, but also the analysis of particular pictures (“text analysis”), although oddly enough, he appears never to have recurred to the latter method as far as photographs are concerned (with the exception of a few studies in publicity). In the second place, his theoretical baggage is complex: Hjelmslevian semiotics, of which he has a much more solid knowledge than Barthes, with just an inkling of the Greimas school approach, in spite of the fact that he wrote his thesis for Greimas; phenomenology, which unfortunately affected him in the subjectivist misinterpretation due to Sartre and the existentialists generally; and experimental psychology.

Most of Lindekens's basic tenets, on the other hand, may well turn out to be unjustified. Thus, for instance, the conventionality of pictures, and their structuring into binary features, is argued for by Lindekens (1971, 1973) mainly using the fact that in a photograph, nuance diminishes as contrast is augmented, and vice versa, so that one of the factors must always be untrue to reality; or, as it is put elsewhere (Lindekens 1971, p. 93, 1976, p. 29), the best rendering of contour and details is not obtained at the same time as the correct contrast. This certainly shows that, under present technological conditions, photographs will never be able to reproduce integrally the reality photographed, but that, anyhow, may not come as such a big surprise. There are two reasons, however, why this does not tell us anything about the binary structuring of photographs: first of all, Lindekens derives this observation from his considerations of the photographic substance, that is, as Lindekens understands it, the nature of the photographic emulsion, which means he is studying factors which are not pertinent, not part of the expression form of the picture. Of course, contrasts, details, and nuances are also perceptual facts, so perhaps the argument may be restated in terms of percepts, which are indeed pertinent factors. It remains untrue, however, that the kind of dimension thus erected is in any sense equivalent to the oppositions of the elementary units of linguistics: a phoneme is either voiced or unvoiced, but a picture, and in fact any single point of a photograph, must be nuanced to some degree and contrasted to some degree. Only the extremes would seem to exclude each other (cf. Sonesson 1989a, p. 159 ff.).⁵

As a matter of fact, Lindekens (1971, p. 178 ff.) also takes his experiment a little further, to show that the interpretation of a photograph is influenced by its having been made more or less contrasted or nuanced in the process of development. Interestingly, in quite different quarters (more precisely, in the group associated with the German architectural semiotician and psychologist Martin Krampen), Espe (1983a, b) has taken up the same study independently, showing interesting interactions between factors, but with the general result that an identical photograph may carry very different affective import for being differently contrasted. As a consequence, the evaluation is often projected onto the subject matter, so that the girl appears more or less beautiful, the landscape more or less melancholic, and so on. It seems probable that the common source for Lindekens's and Espe's experiments is the more casual comparison made by Gombrich (1960) of two differently contrasted

⁵ The arguments against Lindekens presented by Schaeffer (1987, p. 41 ff.) are more anecdotal, as are also those of Lindekens's arguments he turns against. I have dealt with the contradictions of the ethnological and psychological evidence in Sonesson (1989a, p. 251 ff.). As for the points I have tried to make above, it should be noted that Lindekens (1976, p. 81 f.) later observes that the trait "nuancé/contrasté" is only a potential *iconeme*, as long as we are not acquainted with the entire pictorial system, which sounds as an advance criticism of the use to which the opposition is put in the work of Vilches (1983a,b, p. 45 ff.), which I have discussed in Sonesson (1989a), I.3.4. Unfortunately, Lindekens then goes on to claim that the extent of variation possible inside an iconeme can only be determined through the work of chemical and optical analysis; which is true as far as irrelevant variants are concerned, but a countersense if the determination of the *limits of variations* is meant—for, as Lindekens (1976, p. 76 f.) himself observes, we are concerned with the equivalents of *phonological*, not phonetic, traits!

photographs showing the same landscape that Constable painted in Wivenhoe Park, viewed from an identical vantage point.

Although apart from Lindekens's pioneering contributions, very few experimental studies have been made in pictorial semiotics, the little there is of it which concerns photographs should be recorded here. Espe is in fact responsible for most of it. Indeed, later studies of his (1984, 1985a, b) are concerned with the different semantic effects of black-and-white and colour photographs, and with the effect of viewing position on the interpretation of subject matter. The latter problem has been experimentally investigated independently by Bengtsson et al. (1988) in an unpublished study, which employs photographs taken from three different angles of vision but at an identical temporal phase of a variety of affective facial displays, and was conceived as a criticism of the rather naive use of photographs in the study of such displays, in, for example, the work of Ekman.

19.1.6 Photographic "Language" and the Barthesian Paradox

We will soon proceed to the appraisal of a more recent phase of photographic semiotics, which involves the capital contributions of Dubois, Vanlier, and Schaeffer. They are all concerned to establish the peculiar nature of photography, in opposition to other kinds of pictures, and thus tend to neglect the similarities joining all pictorial signs together and opposing them to all non-iconical signs as well as to non-pictorial iconic signs (cf. Sonesson 1989a). They all, together with Brög, Delord, Krauss, and Maldonado, argue for the essentially *indexical* nature of photographic signs, and in this respect, they hark back to some of the fundamental intuitions of Charles Sanders Peirce.

But when we now at last turn to works attentive to the *peculiarities* of the photographic sign, we must start from a very different way of conceiving these peculiarities, still heavily indebted to the Saussure/Hjelmslev/Barthes tradition, though taking exception to some of the basic assumptions contained in Barthes's work, while also trying to spell out the purportedly more radical implications of some other part of the same presuppositional frame. It will be remembered that although Barthes used a linguistic model in his two famous articles, he denied that photographs were arbitrarily contrived, unlike verbal language, even claiming that the photographic signifier and signified were mutually tautologous. This paradox posed for later researchers the question whether photography constituted a *langage*.

A case in point is Lambert (1986, p. 165 f.), who tries to turn Barthes against himself, observing that although the latter through all his publications has denied the status of a language to photography, the simple fact of his having confronted it with the toolkit of semiotics has contributed to the impression that it is indeed a language. I shall not quarrel here over the exact import of the term "language" (even Metz's distinction between "langue" and "langage" may not be enough); what is at issue here is really Barthes's idea that photographic denotation does not need a code, whereas its connotations (which should, most of the time, actually be called ideological implications; cf. Sonesson 1989a, p 132 ff.) are culturally coded, that it

to say, determined by social conventions. To all appearance, then, Lambert protests that also the Barthesian denotation is coded.

However, if we now review Lambert's own analyses, and the model of the press photographic sign he proposes, we will discover that he nowhere offers any real criticism of its analogical character (even the quotes from Eco and Lindekens on p. 166 f. are moderate in their iconoclasm), but in fact accepts it as a given, adding only a supplementary layer of illusionism ("effet de réel") and a set of mythographic implications, which, as I noted above, may derive (using his terms) from a symbol, a rhetorical figure, or an intericonicity. The character of illusionism remains unclear: in part, it may be caused by analogy itself, and perhaps stem from the tendency of man living in a photographically dominated society to exaggerate its fidelity to reality. As for mythography, it really only occurs in the world which is depicted (even in the case of intericonicity, since it is the depicted situation which is similar), i.e. not even, as far as Lambert's analyses goes, in the way the world is reflectively reproduced in the sign; thus, in the terms employed by Enel (quoted in Ramírez 1981, p. 189), it concerns the system of the real objects, not those of the picture or the verbal text—or, in other terms, it concerns Barthes's connotations, which, even to Barthes, are culturally coded.⁶

In fact, most semioticians after Barthes have criticized him for elaborating a rhetoric of the *referent*, not, as the title of his essay promises, a rhetoric of the picture (see, for instance, Lindekens 1971, p. 231 ff.). Since Costa (1977, 1981) certainly agrees with this criticism, he must rest his claim for a particular *language* of photography on different arguments, and indeed, he maintains (in Costa 1977, p. 69 f.) that the technical aspects of photography, susceptible of offering the elements of a lexicon, have been largely ignored so far. This is certainly not quite true, for even Barthes's original list of connotations would seem to include some technical effects.

Actually, the list of connotations which Barthes (1961, p. 14 ff.) proposed (trick photography; the pose; the object; photogeny, that is, blurring for space-time; aestheticism, i.e. the suggestion of artisticalness; and syntax, the putting together of various images) has been differently commented upon, to begin with by Barthes himself (1961, p. 14 ff.), who admits that only the last three are properly speaking connotations, since only these modify the sign instead of reality; and Lindekens (1971, p. 236 ff.) takes over this distinction, claiming the first three modifies the continuum, that is, perceived reality, whereas the last three intervenes in the discontinuous, which, in this case, is the code of analogy itself. According to Ramírez (1981, p. 175), none of them, except for trick photography and photogeny, are peculiar to photography, since they are found also in the theatre, paintings, the photo novella (!), the cinema, etc., but there are other specifically photographic effects, connected with the confection of the negative and its ulterior treatment, and with

⁶ Enel's model has been formulated for the analysis of publicity, which, most of the time, involves photographic elements. The distinction between the system of real objects and the system of the picture is undoubtedly much less straightforward in the case of paintings and drawings, but it does exist, as discussed in Sonesson (1989a, p. 209 ff.).

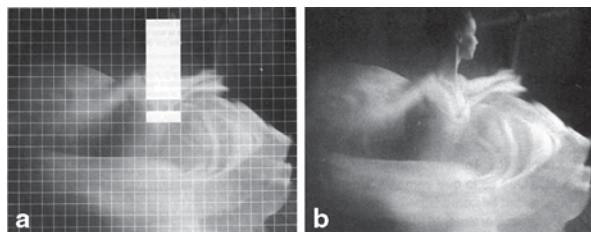
the details of the positive process (op. cit., 172 ff.). In fact, some of these effects *are* present in Barthes's model, for in the second essay (Barthes 1964a, p. 35), we are told that "les interventions de l'homme sur la photographie (cadrage, distance, lumière, flou, filé, etc.) apparentiennent toutes en effet au plan de connotation". Schaeffer (1987, p. 93 ff.) takes exception to most of Barthes's connotations: only one procedure is retained, aestheticism, which should, however, be taken in a wider sense, so that photogeny only becomes a variant of it. As for the Barthesian syntax, it depends on narrative and other extra-photographic codes.

As far as this discussion (which is not really one, since most of the authors ignore each other) is couched in terms of connotation, it is certainly meaningless: for it is not only true, as Schaeffer (1987, p. 94) points out, that the first three procedures, not involving the photographic sign, cannot be connotations, but neither can the other three, or any other intervention pertaining to the photographic sign, at least if Barthes is right in his description of the structure of the latter. Indeed, according to Hjelmslev's definition, repeated by Barthes and all his followers, a connotational language is a language, the expression plane of which is another language; and a language, according to Hjelmslev, irreducibly involves two strata, the expression plane and the content plane. But Barthes claims the primary, analogous sign of photography does not depend on any code for its interpretation, and that signifier and signified are tautologous, which, according to Hjelmslev's criteria, would make them into one and the same, and photography into a symbol system, which, as far as Hjelmslev has thought about the matter, is not among those units capable of being the carrier of a secondary language (for a more explicit argument which involves many other aspects, cf. Sonesson 1989a, pp. 125 ff. and 179 ff.).

However, I will not insist on this argument here, for our authors are obviously the victims of an inadequate terminology. Of course, the argument is not unimportant: it implies that we cannot know what is really meant by claiming these photographic effects to be connotative. We may suspect, of course, from the kind of arguments used (some of which are quoted above) that connotative to some authors means that which is not directly involved in the identification of the object (perhaps of that particular type of object), to others that which carries ideological and/or emotional values, to a third group that which is intrinsically photographic, or, more generally, inherent in the sign character of the sign; and to some, I am afraid, it may even mean all this and a lot more at the same time (cf. Sonesson 1989a, p. 132 ff.).

Costa is of course not aware of all the comments quoted above, some of which were made after the composition of his texts. The signs of his specifically photographic language, which, as he rightly observes (Costa 1977, p. 77), are signs only to the extent that they are interpretable to the receiver, are such things as the geometrical shapes produced by the light directly entering the objective, the luminous stars caused by the headlights of a car, the rhythmic lines resulting from the movement of the camera, the decomposition of movement as made by Marey, perspectival deformations of the kind created by Brandt, chemigrams, negativization, photographism, and so on. (There is a long list in Costa 1977, p. 78 ff.) The list as such is not very new; what is original is the claim that these procedures constitute a language, to the extent that a photograph may contain both analogical and non-

Fig. 19.2 **a** The connotative part of the ballerina photograph, according to Costa. **b** The picture analysed by Costa.



analogical signs, where those of the second type *are present in the photograph without being present in reality* (Costa 1981, p. 133 f.). Again, while the analogical signs are taken to be *denotative*, the second category of signs is assimilated to *connotation* (Costa 1977, p. 77).

There is a suggestion of this peculiar language already in Barthes (1961, p. 16 f.), who, under the title of *photogeny*, would like to include numerous techniques, which he feels are urgent to study, in order to establish the vocabulary of photographic language. It is to this suggestion, contained in a phrase, that Schaeffer (1987, p. 97 ff.) reacts, pointing out that no such lexicon could be found, for, to begin with, these procedures are few in number, and in addition, most of them (Barthes's example, the blur, being exceptional in that respect) do not convey any particular message, beyond the mere intentionality of the intervention (that is, “*cette photo est telle parce que je l'ai voulue comme telle (donc: parce que je suis un bon photographe, un artiste)*”). While Costa does not address any of these arguments, he tries to answer, *avant la lettre*, a variant of the first; for even if Schaeffer is right in thinking that there are very few photographic procedures, we may yet have to accept that they form a language of their own, if it can be shown that they occupy the greater part of the surface of the single photographic image.

Indeed, Costa (1977, p. 73 ff., 1981, p. 126 f.) presents a photograph (which he apparently takes to be representative of all photographs) divided into a series of small squares, which, according to his account, contains only 4.8% of denotation, that is to say, picture squares permitting the identification of the object, and 95.2% of free creativity (Fig. 19.2). Unfortunately, there are numerous problems with this argument. First of all, there is really nothing to assure us of the typicality of this photograph; in fact, we would naturally suspect most photographs to contain much less of free space for creativity. More importantly, it is certainly not true that in this particular photograph only the squares delimited by Costa serve the identification of the ballerina. No doubt, when these squares are left out, as in Fig. 19.2a, it is impossible, or almost impossible, to identify the motive of the photograph; but once they are replaced in their context, the interpretation that they suggest is transferred and confirmed by the rest of the shape. This is the procedure I called *resemanticization* in Sonesson (1989a, p. 295 ff.), where I illustrated it with drawings; it accounts for the nature of all pictorial parts being somewhere in between the nature of first and the second articulation found in verbal language (the level of phonemes and the level of words). In the present case, the squares marked out by Costa certainly are most heavily weighted semantically, as far as the identification of the person as a

person and as a girl is concerned; but on the lower intentional level on which she is also a ballerina, the indication can only stem from the squares which, according to Costa, do not serve identification.

Interestingly, Espe's (1983a, 1983b) experimental tests were motivated by a desire to refute Barthes's conception of the photograph as having an expression plane which is tautologously related to its content plane, that is, as lacking a code. Experimental subjects were presented with three types of motives: things (teapot), landscapes (tree), and persons (a girl), in four degrees of brightness, and were asked to evaluate them on 24 scales. Four of these scales turned out to account for 48% of the variation, viz: (a) antipathy, (b) calm versus tension (excitement), (c) lack of stimulation, and (d) potency versus weakness. Of particular interest is the fact that the same degree of brightness may have diverging effects on different motives: thus, the teapot and the landscape receive a more positive evaluation (more homely (*vertraut*) and clean, but also more sterile) in the light grey version than in the white one, but the opposite is true of the girl (more contaminated (*verseucht*), terrifying (*unheimlich*), and dirty; 1983a: 104 ff.). From his results, Espe concludes that there are rules of codification in photographs, although the units determined by these are not similar to phonemes, since the motive as such remains unmodified.

At this point, it is important to inquire into Espe's understanding of the distinction between denotation and connotation, and of his notion of motive. Actually, Espe (1983a, p. 93 f.) is explicit about his preoccupation being with "affective meanings", and this interest is also clearly embodied in the terms dominating his 24 scales (at least those mentioned in the article). In fact, however (as shown by Sonesson 1989a, pp. 113 ff. and 179 ff.), the Hjelmslevian notion of connotation, invoked by Barthes, does in no sense involve affective meanings, and although many of Barthes's so-called connotations are of doubtful legitimacy, they are not merely emotive reactions. In fact, connotation in Hjelmslev's sense is *a secondary content resulting from the choice of a particular expression, to the exclusion of all other possible ones, to stand for a given primary content, or of a particular variant, to the exclusion of all other possible variants, to realize the expression invariant* (cf. Sonesson 1989a, p. 114 ff.). Therefore, the selection of one degree of brightness among many possible ones may carry a connotation, which primarily simply says "choice of the degree \times brightness", but which may in turn imply other values with which it has been culturally invested, or even, in a case like brightness, the different degrees of which are themselves "natural signs" (though of course not iconical signs), may refer to biologically grounded reactions.⁷ However, such a connotation

⁷ "Natural sign" should here be taken in the old meaning, as that which has not been culturally instituted, and which may have more affinities with what we would now call an indexical sign than with the iconical ones. Thus, Dégerando talks of the "natural sign" which consists in one animal observing the flight of another one of the same species and following the example. For discussion, see Sonesson (1989a, p. 213 ff.). The point here is that we may be "naturally disposed" to react in particular ways to differing degrees of brightness. The fact that different motives developed with the same degree of brightness are differently interpreted would seem to throw serious doubts on at least this simple variant of the "naturalistic" hypothesis, but there are of course ways in which it may be amended.

can only exist if the choice is seen to be one, that is, *if the secondary layer of content is perceived to be distinct from the first one.*

But this is precisely what Espe seems to claim: the motive, he tells us, remains unaltered in the process. But earlier, he has also informed us that his experimental subjects were not aware of the difference of brightness, the result being somewhat different when a direct evaluation was made.⁸ This brings us to the question what Espe means by motive. No doubt the girl is always recognized as a girl, the tree as a tree, and the teapot as a teapot. But if, with the subtraction of one degree of brightness, the girl photograph receives higher values on the scale for contaminatedness, terrifyingness, and dirtiness, we may wonder if this does not mean (as Espe's own formulations seem to suggest) that it is the girl who is judged to be more contaminated, terrifying, and dirty. And in that case, the motive, from being a clean girl, is transformed into a dirty girl, and so on. The point may be made clearer by invoking our own study of angles of vision (Bengtsson et al. 1988): here, the motives were different emotions, and we did indeed discover that an identical moment of a facial expression was assigned to different emotions when presented from different vantage points. Thus, the perspective chosen on the actor could completely change the motive perceived, that is, the emotions believed to be expressed by the actor.

This shows that there is no connotation here, for the emotional values are projected directly onto the motive, and incorporated into the primary content. As for Espe's basic hypothesis, according to which photography is codified, in the sense of not reproducing tautologously the reality to which it refers, it is actually reinforced by our argument.

In fact, the error of the approaches considered so far would seem to be the attempt to locate the conventionality of photography in some particular part of its vocabulary, or of the photographic surface, when in fact it is the whole process by which the image is mediated which is conventionally overdetermined. Ramírez (1981, p. 170 ff.) and Gubern (1974, p. 50 ff.; Gubern 1987a, b, p. 156 ff.), when considering the factors by which the photograph differs from perceived reality, would seem to get closer to this essential insight into the conventional aspects of photography. We will return to consider these factors after first discussing the possible indexicality of the photograph.

⁸ In our own study (cf. Bengtsson et al. 1988), concerned with angles of vision, we also varied the experimental procedure somewhat, obtaining differently distinct results. In the first case, photographs depicting three different actors in the course of expressing four different emotions photographed at the identical moment from three angles of vision were shown in random order. In the second case, the three shots taken from different angles of vision at the same moment and extracted from the mimic sequence of one and the same actor were mounted together on a frame. The result was much clearer in the first case. This may be similar to the two procedures employed by Espe (though this remains somewhat uncertain), but I am not sure Espe is right in describing the latter experimental situation as being the most realistic one. In fact, most of the time, we perceive single photographs, maybe just one photograph published by a newspaper, which has been selected from an extensive series of pictures taken of the same event at the same occasion. It is indeed rare that we are called upon to compare different photographs, in particular those that show an identical object at an identical time and place.

19.1.7 *The Photograph as an Indexical Sign*

According to a different point of view, the photographic image may be taken to be essentially a trace left behind by the object appearing in the photograph. One of the pioneers of semiotics, Peirce (1931), already claimed that the photograph should be considered an indexical sign, rather than an iconic one, that is, a sign based on the contiguity subsisting between the expression and the content, not on their similarity.⁹ At least, this is how he has often been read. But if we attend a little closer to his wordings, and if we make a benevolent reading of his works, we may find that he only claims that the photograph is an index *in one respect*, which apparently permits it to remain an icon when considered from other points of view. This is certainly how he has been understood by the orthodox Peirceans of the Stuttgart and Perpignan schools, and it is also, as we shall see, Schaeffer's interpretation.

In the work of such strict followers of the Stuttgart school as Brög (1976, 1978a, b, 1979b) and Schmalreide (1981), photographs are classified according to their different relationships to the object, as well with respect to the other two Peircean trichotomies. Unfortunately, it is difficult not to find this approach largely empty of content, not only because the Peircean trichotomies are based on such slippery notions to begin with but also because the assignations to different sign categories are not justified in the taxonomic discourses of the Stuttgart school. It must be recognized, however, that these authors have never doubted that the photograph, as well as other signs, may be iconic and indexical at the same time. Other, more recent, contributions to the Peircean consideration of photography, which do not seem to introduce any new aspects, may be found in Santaella and Nöth (2003), as well as in Jappy (2010, p. 189 ff.).

The first semiotician in recent times to insist on the indexical aspects of photography may well have been Maldonado (1974, 1979), who introduced the notion of "hard icon" in his argument against Eco's conventionalist theory of pictures, which he accused of being "idealistic", and of undermining science, which largely depends on certain kinds of pictures. In fact, "hard icons", according to Maldonado, are signs which, in addition to bearing resemblance to that which they depict, are related to them as traces to that which produced them, as are X-ray pictures, hand impressions on cave walls, "acoustic pictures" made with the aid of ultrasound, silhouettes, configurations left on the ground by people who were out walking in Hiroshima at the moment of the explosion of the nuclear bomb, thermograms, pictures made with "invisible light" to discover persons hiding in the woods, and ordinary

⁹ It should be noted that it is quite intentionally that I here avoid Peirce's own terms, representamen and object (to which a third one, the interpretant, should be added), in order not to introduce more confusion than is necessary. In any case, it is quite certain that the object is not the referent: that distinction would rather correspond to the one between the immediate and the dynamic object. Also, the interpretant is not the content, though it is more difficult to say what exactly it is (cf. discussion in Sonesson (1989a, p. 201 ff.)). On the adequate characterization of the index, see also op. cit., p. 30 ff., as well as most of the sections below. The formulation above only serves to introduce the issue.

photographs. The real contiguity between the picture and its referent is here taken to guarantee the cognitive value of the picture.

Krauss (1982), in her analysis of Nadar's autobiography, tried to demonstrate that what holds together the anecdotes recounted there by the famous pioneer of photography is the fascination for the contiguity between the motive and the picture imposed by the very mechanism of photography. In other texts, however, she has argued that indexicality, introduced into the art world by photography, has continued to fascinate contemporary artist, from Duchamp onwards, and is characteristic of postmodernism. If so, of course, indexicality cannot be sufficient to characterize photography (which is an important point of which Krauss seems to be unaware—nor does Jappy 2010 mentions this conundrum in his comments to Krauss).

Delord's (1986) book is written in a rhapsodic style, recognizable from the later work of Derrida, which makes it difficult to know what he is really driving at. At times, however, he is certainly out to criticize Barthes's conception of photography, among other things, for its psychologism (p. 21 ff.)¹⁰; and at other moments, he clearly means to suggest that the photograph is semiotically speaking an index (p. 32 ff., p. 36 ff., p. 125 ff.), but at the same time (p. 128 f.), he also warns us from thinking that it is just that. But of course, Delord is already aware of the work of Dubois.

Indeed, it remains for us to consider the work of Dubois (1982b, 1983), as well as that of Schaeffer (1983a, b, 1986, 1987) and Vanlier (1982a, b, 1983), who more or less at the same time have focused in an explicit way on the specificity of the photographic sign, all concluding, more or less following the suggestion of Peirce, that it is essentially an index. There are important differences between these authors, however; and while they may well have began their studies independently, Dubois (1983) already comments critically on Vanlier's (1983) book, which he has read in manuscript; and Schaeffer (1987), while admitting to the coincidence of the general conceptions, marks his distance to numerous points made by the earlier writers.

Since most of the second section of this chapter is concerned with a detailed critique of the fundamental work accomplished by these three semioticians, it will not be necessary to enter more thoroughly into the body of these works here. Suffice it to indicate for now the principal differences between the texts and the conceptions. Thus, Vanlier's book has the character of a philosophical essay, with little indications of sources, and his notion of indexicality (split into the untranslatable opposition between "indice" and "index") is not strictly bound up with that of Peirce; indeed, the kind of "indice" which he discovers in photography is actually, in the most literal sense, a mere trace, and he usefully characterizes the peculiarities of the photographic trace. The book is illustrated with photographs of the artistic kind, but there is little, or very passing, commentary on these photographs in the text.

Also Dubois is exclusively concerned with art photography. His book, however, contains a scrutiny of a number of photographs, notably in the later chapters, but these photographs are hardly being *analysed*; in part, they are the subjects of a *text classification* (i.e. they are ordered into categories on the basis of some of their

¹⁰ To judge from the title, this is the exclusive subject matter of Delord's (1981) earlier book, which is unfortunately out of print.

properties, rather than being exhaustively studied) according to the different kinds of indexicalities they contain. Contrary to Vanlier, Dubois is concerned to place himself within the recent history of photographic semiotics, which he differentiates into one iconic phase, a symbolic (in the sense of conventional) one, and then an indexical one, of which his own work is a part. He also is more preoccupied with stating his relationship to the Peircean tradition, though he does not seem to be all that immersed in its ambience. There is more of explicit arguments and discussion of earlier theories here than in Vanlier's essay, and Dubois also attends to some indexical qualities in painting, and, as I already noted, to indexicalities which are depicted in the sign, rather than going into its making.

The best, and most systematic, work is that of Schaeffer, but then it has also profited from the experience of the two earlier writers. Schaeffer takes a less extreme stance than Vanlier and Dubois, arguing that the photograph may be an indexical icon, or, in other cases, an iconic index. His book is organized into short passages, each concerned with a limited theme, and presents elaborated arguments, addressed to particular theoretical texts. It contains interesting critical observations on the writings of Barthes, Eco, and Lindekens, and also to some extent on the works of Vanlier and Dubois. Contrary to these latter writers, Schaeffer claims that a correct understanding of photography must result from a study, not of art photography, nor of photojournalism, but of scientific and documentary photography. He presents a characteristically system analytical taxonomy of photographic kinds, which is a cross-classification according to the relative indexicality or iconicity of the representamen, the relative temporality or spatiality of the interpretant, and the thing or state structure of the object (Schaeffer 1987, p. 72). His Peirce reception, like that of Dubois, is much more faithful than that of Vanlier, but some doubts on its correctness subsists, as we shall note later. Although Schaeffer's book contains the reproduction of 12 photographs, they do never enter essentially into the arguments. In fact, even the taxonomy mentioned above is purely system analytical, with no incursions into text classification.

19.1.8 Floch and the Case Against Photographic Specificity

The last writer I shall consider here has a curious position in our story, for while, on the one hand, he is more or less the only one to have accomplished real text analytical studies as applied to photographs, he at the same time denies the pertinence of the quest for photographic specificity. Floch (1986a, p. 11) rightly objects to the practice of using photographs simply as illustrations, which is characteristic of Vanlier's and Dubois's books, which instead get lost in the generalities of photographicity. But Floch's own alternative seems contradictory, and, on at least one interpretation, is seriously flawed. On the one hand, he states as his task to account for the particularities of a given photograph (Floch 1986a, p. 11); and on the other hand, he claims semiotics should define other categories which cross-cut socially accepted ones, such as "picture", "art", and "photography" (Floch 1984a, p. 11; Floch 1986a, p. 12 f.). Both these opposed alternatives to a study of photography

and other socially accepted pictorial kinds are explicitly present in Floch's text, but it is not at all clear how they could be reconciled. And while the first interpretation seems to make nonsense of semiotics as a science, the second appears to opt for a positivistic approach of the most gratuitous kind.

Let us have a closer look at this conundrum then. Semiotics, according to Floch (1984a, p. 11), is incapable of telling us anything about sociocultural categories such as "photography". Instead we should attend to the particular properties of the given photograph. This is a legitimate claim as far as it is an argument tending to favour a text analytic method over those of system analysis and experiment. But if it means that a particular photograph should be not only the object studied but also the object of study, of a semiotic investigation, it would seem to deprive the semiotic approach of its peculiarity, making it just another method which may be used inside art history, communications studies, and so on. That is, if the semiotic object of study is not specificity (of pictoriality, of pictorial kinds, or whatever), then semiotics itself will lose its specificity. We may still argue for semiotics on the grounds that it builds models, that it uses certain constellation of methods, etc. (cf. Sonesson 1989a, p. 15 ff.), but, in any case, its originality certainly comes out diminished.

According to the other interpretation, semiotics is admittedly geared to the study of general facts, but these facts are not of the kind designed by terms like "photography" (and "picture", "publicity", "art", etc.). These latter terms serve to label categorizations of semiotic resources which are *merely* sociocultural, that is, historical and relative ("le découpage socio-culturel donc relatif et historique des moyens d'expression"; Floch 1986a, p. 13); but if we want to understand how, in a particular photograph, meaning comes to be, we must instead apply ourselves to the development of a general theory of discourse, which includes all kinds of discourses, besides visual ones also architectural, linguistic, and so on (Floch 1986a, p. 13)

It is difficult to understand why "merely" sociocultural division blocks should be despised, for in all their historical relativity, they are probably the only ones we have.¹¹ Indeed, as I pointed out (in Sonesson 1989a, p. 90 ff.), following Prieto, who himself quoted Saussure, semiotic objects only exist for their users, that is, they have only the kind of existence that they are accorded by their use in a given social group; and thus, once we pretend to go beyond sociality, there is nothing left to study. It is true that Floch's master Greimas, following his master Hjelmslev, has argued that a semiotic theory should be arbitrary—but also adequate; and I have already (1989a, p. 90 ff.) noted the paradoxes of this pronouncement. There is a

¹¹ Floch (1986a, p. 12) even compares the study of semiotic specificity with the quarrel over the possibility of art in photography which raged in 1850s. But these are really very different questions, on two counts. First, the questions are different, because, in the first case, we only want to characterize a category ("photography"); in the second case, we are concerned to relate two socially given categories ("art" and "photography"). Second, "art" is a notoriously difficult category to define, because it is differently delimited, through the ages, and in different social groups; but nothing of the sort is true of photography. When Floch (1986a, p. 13) claims that to describe these social division blocks is "au mieux, expliciter un système connotatif", this only goes to show that he does not know what connotations are, for only semiotic systems and their parts may connote, in Hjelmslev's sense (cf. Sonesson 1989a, p. 179 ff.).

risk, then, that we are faced here with that kind of gratuitous thinking which makes Goodman substitute a picture concept of his own making for the one commonly employed because he finds the latter incoherent—when the real task is to account for the peculiar systematicity of the common lifeworld notion of a picture (cf. Sonesson 1989a, p. 251 ff.). But, as we shall see, there may actually be a somewhat more interesting sense to Floch's argument.

Floch (1986a, p. 12) actually rejects the doctrine of signs in favour of another study, that of

les formes signifiantes, les systèmes de relations qui font d'une photographie, comme de toute image ou de tout texte, un objet de sens. La sémiotique structurale qui est nôtre ne vise pas à élaborer une classification des signes, ni selon les conditions de leur production, ni selon les rapports qu'ils entretiennent avec la 'réalité'. /—/L'image photographique peut être techniquement une empreinte; mais qu'importe en l'occurrence: ce sont les formes de l'empreinte qui font d'elle un objet de sens possible, et c'est à partir du moment où l'on s'intéresse à ces formes qu'on ne peut se contenter de parler de la photographie en général.

There are a number of things to note here. First, we will not enter the quarrel over signs again (cf. Sonesson 1989a, p. 49 ff.), for if even Peirce admitted something could be an icon from one point of view, and an index from another, signs do not have to be atomic units, but may be relations, of which many are wont to go together, and the only requirement is that there is a distinction of content and expression. Second, it is curious that Floch should claim the old epithet "structural" for his (and Greimas's) conception of semiotics, for nothing could really be more contrary to the spirit of structuralism (that of Saussure and Hjelmslev, notably), than the idea, presupposed here and vindicated by Greimas, that content and expression may be freely combined, so that, in the present case, the same sense may be produced in different pictorial genres.¹² Third, however, there may really be a place in semiotics for a study of "significant forms" which cuts across the divisions of photography and painting, and even of visual and other discourses.¹³

There may actually exist *other* pictorial categories than those which are explicitly recognized in our culture; and there may thus be similarities, for instance, between a photograph and a painting; but it is not to be understood why we should study these at the expense of the former categories, which are certainly primary on a social level. The exceptional existence of such similarities does in no way diminish the importance of characterizing the socially received categories.

But, of course, the fundamental issue here is to find out what Floch is really doing in his text analyses, but this is not quite easy, for in actual fact, each one of Floch's

¹² In a structure, as I noted in Sonesson (1989a, p. 81 ff.), the parts interact and so mutually modify each other, or even create each other, as is the case of the phonological oppositions. Thus, if the semiotic function is structural, as it certainly was to Hjelmslev, content and expression cannot be freely exchanged and recombined, as the Greimaseans think.

¹³ The latter is more doubtful, in any case. For instance, if we define iconicity as "un effet de sens de 'réalité'" (Floch 1984a, p. 12), we will easily find it also in verbal discourses; but by admitting this definition, we have already given up the peculiarity of iconicity, and we have deprived ourselves of the possibility of discovering that there is a peculiarity of pictoriality, inside that of iconicity (Cf. Sonesson 1989a, p. 201 ff.).

studies appears to be somewhat different. Thus, there is his analysis of the advertisement for the cigarette brand “News”, which basically involves a photograph, and which, in the only directly analysed variant, is a photograph *of* other photographs (Floch 1981); here, Floch himself claims to be using the same approach as employed beforehand on Kandinsky’s semi-abstract painting *Composition IV*, and although there are in fact important differences between these two analyses, which we have noted elsewhere (see Sonesson 1989a, p. 150 ff.), the basic operations pertaining to expression and content of the iconic and the plastic layers are identical. However, the resulting similarities are so general that they could hardly be said to delimit any peculiar kind of discourse, which cuts across the divisions of abstract painting and photography. In both cases, as in many others, Floch discovers a plastic organization in terms of binary contrasts, in particular that between continuity and discontinuity, and mounted on the Lévi-Strausseau proportionality.¹⁴ If these are not properties of all discourses, as Floch perhaps thinks, then at least they do not seem capable of defining new categories of discourses, simply because they are too abstract.

None of the other analyses, all concerned with what must, at least *post festum*, be qualified as artistic photography, are as complete as the “News” analysis in the range of methodological operations applied. Another analysis, which, however, comes close to account for a picture totally, though with much less explicit formalization, is the one concerned with Cartier-Bresson’s “Les Arènes de Valence” (Floch 1984b). Yet this analysis would seem to ignore many important aspects of the photograph, in particular as far as the plastic layer is concerned (which is precisely why we have chosen to sketch our own analysis of this picture in Sonesson 1989b, 1992). Although Floch does point to the similarity that this photograph holds with a collage, which would make it into a false photomontage, he does nothing to establish this category as having its locus on a deeper level. Nor does he attend to the difference between the photograph and a collage.

The other photographic analyses are undoubtedly more heavily focused, for rather than aiming to account as completely as possible for one unique photograph, they are clearly designed to illustrate particular conceptual issues. Thus, when Floch (1982) occupies himself with Doisneau’s “Fox-terrier sur le Pont des Arts”, he is out to inform us about the meaning of “iconicity” to the Greimas school, which turns out to be a question of make-believe, and the analysis is consequently entirely on the iconic level, and, even more narrowly, purely narrative. As for Floch’s (1984a, p. 21 ff.) study of Boubat’s “Nu”, it deals with the nature of contrasts, and it is thus of general interest to pictorial semiotics, rather than contributing to the establishment of any new demarcations between pictorial kinds. For, although un-

¹⁴ In view of the question concerning the generalizability of binary contrasts, which I formulated in Sonesson (1989a, p. 132 ff.), is interesting to note that Floch (1986a, b, p. 26) actually claims that it is because visual messages are not naturally resolvable into discrete parts, that he has chosen to centre his interest on such pictures as are organized around binary contrasts of value, colour, shapes, and so on. This would seem to imply that Floch would recognize the existence of pictures that are not binarily built, but it does not answer the query whether those features, which are discovered by means of binary contrasts in some pictures, are then thought to be projectable to pictures lacking contrasts.

like Lindekens's "contrasted versus nuanced", Floch's contrasts are not peculiarly photographic, they do not define categories.

More to the point are two others analyses. In the first of these, Floch (1986a, p. 85 ff.) tries to convince us that one photograph by Stieglitz and one by Strand, taken to epitomize the respective *œuvres*, may be opposed to each other as are the baroque and the classical, according to the five terminological couples which Wölfflin applied to paintings. These comparisons are problematical for numerous reasons, both in themselves, as defined by Wölfflin, and as transposed to photography by Floch. It would take us too far, however, to consider these issues here. The second analysis is concerned with Brandt's "Nude" (Floch 1986a, p. 113 ff.), which Floch (p. 117) compares to Matisse's cut-outs, without pursuing the analogy any further.¹⁵

In conclusion, then, Floch's analyses fails to establish any new division blocks of visual discourses, nor do they seem to serve our purpose of defining socially received picture categories; but they do seem to contain some suggestive analogies, which may serve as a point of a departure for other analyses.

19.1.9 *The Semiotics of Photography in Later Years*

Already in my main *œuvre* (Sonesson 1989a), I discussed photography in connection with the notion of indexicality. While this work was still in the process of publication, I also (Sonesson 1987) entertained, in an internal working paper, the suggestion to divide picture categories according to three different principles of classification: the character of the *link between expression and content* (separating, for instance, painting and photography), the *socially intended effects* (caricature, advertising, and pornography being among those most clearly defined), and the *social channels of circulation* (separating the postcard from the poster and the illustration in the weekly review; cf. Sonesson 1992). Furthermore, in another internal working paper, I (Sonesson 1989b) wrote a critical exposition of the semiotics of photography, as propounded by Vanlier, Dubois, and Schaeffer, pinpointing the confusions of all these approaches, while trying at the same time to develop and specify their idea of photographic indexicality. The main result of this work, which has been extended in several later articles (Sonesson 1994, 1998, 1999b, 2000, 2001, 2003a, b, 2005), in particular in relation to television, holography, and virtual reality (Sonesson 2001, 2003a, b, 2005), is, on the one hand, to oppose the local mapping rules of chirography (handmade pictures) to the global rules of photography, and, on the other hand, to insist on the primacy of iconicity also in the photographic sign.¹⁶

Marner (1999) has written what is probably the only extant monography discussing the work of a single photographer, the Swede Christer Strömholm, using

¹⁵ It so happens that I have elsewhere attempted an analysis of some aspects of Matisse's cut-out "Nu bleu IV" (cf. Sonesson 1989a, p. 310 ff.), and that I had independently been struck by the similarities between this cut-out and Brandt's "Nu"; this is why I have also studied the similarities and difference of these two pictorial kinds in Sonesson (1989b).

¹⁶ The discussion of post-photographic images would take us too far in the present context, but two relatively recent contributions to this study, apart from our own work, must at least be mentioned here: Maldondo (1994) and Barboza (1996).

the methods of visual and cultural semiotics. Marner's 1999 dissertation bears the title, in translation, "Canned Feeling—Surrealism in the Photography of Christer Strömholm—A Semiotic Inquiry". Marner's thesis develops a model of rhetoric as consisting in making something more familiar or more estranged in relation to the I-here-now situation of the lifeworld. The model builds on the values of "high" and "low", and the figures of estrangement and familiarity, as directions, which goes to and from the I-here-now position. A model of a rhetoric of time is also employed. In relation to the I-here-now-position, retroactivity and reconstruction are seen as ways of construing the past, while on the other hand, anticipation versus contemporisation (the imposing of contemporary structures) are considered to be relations to the future. The rhetoric models have the ability of approaching or departing from a here and now while accounting for the history of (a) photograph(y). Marner views the rhetoric of time in the light of my distinction between a centripetal and centrifugal force, especially as evident in modernism's ambiguous tendency to include new media, but also to cultivate the isolation of art as art (cf. Sonesson 1999a). In this view, reconstruction and contemporisation become centripetal figures in their capacity of being capturing practices, while retroactivity and anticipation, to the extent that they focus on singular aspects, may be regarded as centrifugal. The essential contributions of Marner thus concern the surrealist rhetoric manifested in Strömholm's photographs, and the myth created by the artist around his personality (cf. Marner 1997, 2002). As far as the semiotic nature of photography goes, however, Marner simply makes my critical position into his own.

Nothing very new seems to have happened in the semiotics of photography in the past few decades. Among the most recent publications, with a distinct theoretical bent, are two books by Dondero and Bassi (2008, 2011), but it is not clear that they add anything to my conception.

19.2 Beyond Indexicalism in Photographic Semiotics¹⁷

According to Dubois (1983, p. 20 ff.), it will be remembered, the first semiotical theories tended to look upon the photograph as a mirror of reality, or, in Peircean terms, an *icon*; then came that most famous generation of iconoclasts who tried to demonstrate the conventionality of all signs, claiming even the photograph to present a coded version of reality, or, as Peirce (according to Dubois, at least) would have said, a symbol; and finally, the photograph was seen for what is really is, an *index*, a trace left behind by the referent itself. While there is no reason to subscribe to Dubois's unilineal story of progress, these distinctions do furnish us with a handy classification of the relevant epistemological attitudes, which will then serve as a background for the subsequent discussion.

The authorities quoted by Dubois from the first period are in fact largely pre-semiotical: Baudelaire, Taine, Benjamin, Bazin, but also Barthes. Most of the minor classics of semiotics are mustered for the part of the symbol-loving team: Metz,

¹⁷ The following discussion is a somewhat updated summary of the argument in Sonesson (1989b).

Eco, Barthes (once again!), Lindekens, Groupe μ , and so on. In the part of the daring moderns, we find, apart from Dubois himself, such writers as Bonitzer, Krauss, Vanlier, and Peirce, of course, but also already Barthes, Benjamin, and Bazin, when viewed from another angle of vision.

In the following, I intend to initiate an in-depth discussion of some of the theories pertaining more specifically to the nature of the photographic sign. I will follow Dubois in considering these theories under three divisions: such theories which take the photograph to be essentially an icon, those that claim it is as conventionally based as other pictures and/or as verbal signs, and those that claims its nature can only be derived from indexicality. But there are really no theories to discuss about the iconical nature of photography, in the sense that there are no arguments for this position; all through most of photographic history, it has simply been taken for granted. One exception may be Barthes's enumeration of the respects in which photography differ from drawing. Thus, I have considered this conception, together with the opposite, conventionalist argument, in my first subsection. Then, I have reviewed critically the claims for indexicality, as presented by Vanlier and Dubois. Although Schaeffer also defends an indexicalist position, though a somewhat more moderate variant of it, his theory will be considered under a separate heading, simply because I came to acquaint myself much later with his contribution. In fact, it will be seen that some of the critical observations I have directed at include: Vanlier and Dubois have been anticipated by Schaeffer; other, however, remain valid also for Schaeffer's theory.

Before we enter the discussion of photographic indexicality, it will be convenient to establish a rough categorization of the pictorial construction types, and to give photography a place in that taxonomy. Sonesson (1989a) followed the psychologist Gibson in admitting a primary distinction, among those signs which are markings on surfaces, between *photographic* and *chirographic* pictures, that is, literally, pictures produced by the workings of luminosity on the surface, and pictures the markings of which are made by hand. According to Espe (1983b), however, graphics, which comprises all kinds of manipulations of two-dimensional surfaces, is really of three kinds: *photographics*, *chirographics*, and *typographics*. Like the term *photographics*, that of *typographics* here retains its ordinary sense, but it could perhaps also be conceived to mean, more broadly, the production of markings on surfaces by the use of standardized implements.

This brings us in the cognitive neighbourhood of another classification, proposed by Gubern (1987b, p. 46 f.),¹⁸ which distinguishes between *chirographic*

¹⁸ This is only part of Gubern's classification, which also distinguishes pictures accordingly as they are autogenerated or exogenous, private or public, bidimensional or tridimensional, and fixed, sequential, or mobile. More to the point, for our present purposes, is Gubern's threefold division of all visual information into the *visible natural world*, the *visible cultural world*, and the *gestural system*, where then those parts of the visible cultural world that are specifically destined to visual communication are separated into *writing* (Espe's *typographics*), *pictures*, and other kinds of *signalling devices*. Gubern may be right, from a certain point of view, in letting the branch of *typographics* separate out earlier than the others, since they do not contain pictures in an ordinary sense, but our point of departure here is the more general category of markings on surfaces.

pictures, such as drawings, and *technographic* pictures, which is a group comprising photography as well as pictures produced by the cinematographic camera and the video, and which could perhaps also be made to include what Gubern (1987a, p. 73 ff.) elsewhere terms synthetic pictures, that is, pictures produced by means of a computer.¹⁹ It is not actually the same classification, however: in spite of not being hand produced, neither photographic nor cinematographic pictures, nor all synthetic pictures are created using standardized elements, as is the case with typography; indeed, it is one of the remarkable feats of desktop publishing that it de-standardizes type fonts, permitting them to vary along a number of dimensions (size, obliqueness, etc.), thus bringing them closer to being pictures.

This breaking up of the association between that which is machine made and that which is standardized is a characteristic feature of information society (at least on the face of it), but it really already began with photography and the cinema. However, what is more remarkable, from our present point of view, is that synthetic pictures, which, as Moles (1981) notes, may look exactly like photographs, do not regulate themselves on anything like contiguity, but are rather (indirectly) mediated by similarity.²⁰ That is, traditionally all hand-produced pictures regulate themselves on similarity (they depend on what Gibson calls the hand-eye system),²¹ whereas all machine-made pictures are indexically derived—until this simple organization is destroyed by computer graphics.

19.3 The Nature/Culture Debate in Photography

There has been a common understanding, from the inception of photography onwards, that the photograph, even more than any other kind of picture, constituted a natural sign par excellence—or, more exactly, it was taken to be so intimately associated with the object depicted, with no distance being involved, that it could not even be considered a sign. To Fox Talbot, photography was “the pencil of nature”; and those who denied to photography the capability of being art, thought the photographic plate was produced, for good or for worse, as a direct emanation of the motive itself (cf. Freund 1974; Gubern 1987b, p. 145 ff.; Ramírez 1981; Scharf 1968; Tausk 1977). Indeed, the idea of photography being an emanation detaching itself from the object’s (or at least the subject’s) soul was taken quite literally by Balzac, at least as his theory of spectres is recounted in Nadar’s memoirs (cf. Krauss 1982).

However, Barthes may have been the first to state explicitly the respects in which the photograph could be supposed to be more close to its object than other pictorial

¹⁹ That is, at least some subgroup of computer-produced pictures, whereas another subgroup may, as far as its productive link is concerned, come closer to freehand drawing.

²⁰ Thus, if postmodernism is really epitomizing the indexicality character of photography, as Krauss would like us to believe, it is a latecomer to the game, for the most “revolutionary” images of today are not indexicality based!

²¹ It includes hand-held tools. There is a problem, of course, in determining the limits between such tools and certain simpler kinds of machines.

kinds. Only photography, he claims (Barthes 1964a, p. 34 f.), is able to transmit a message, without using either discontinuous signs or rules of transformation. That a drawing, on the other hand, must be coded (that is, comparatively conventional) and appears, in his view, from three considerations. First, the rendering of the object in the drawing is dependant on historically variable, and systematic, rules of transposition. Second, no object can be transposed to the drawing without a selection having been made beforehand from all the properties possessed by the object in the real world, and this selection gives rise to style; whereas photography is unable to intervene in the internal details of the object it renders (and thus, Barthes would seem to say, it lacks style!). Third, drawing ability has to be learnt, as must the use of any other code (but photography, Barthes apparently implies, is innate!).

These arguments, which may certainly appear somewhat naive, should not be rejected offhandedly, which is what Floch (1984a, p. 26) does. Instead, let us have a look at them in turn, beginning from the rear end. But it is interesting to note, before we go on, that the historical nature of drawing is doubly affirmed: both in the characterization of its working principles (first aspect), and when the necessity of their inculcation is claimed (third aspect). Actually, this historical character is again included in the second aspect, when it is said to produce style. And even more deep down, what is implied by all three aspects is really that drawing allows a choice, even if that choice is historically fixed: but even so, that may not really be the same thing as arbitrariness in the sense of Saussure, which to structural semiotics only makes something into a sign (and we will return to this issue below).

There is something true, of course, in the observation that the ability to draw has to be learnt, whereas photography may seem to be a possibility open to everyone without any preceding training. Gubern (1987b, p. 46) comments on the apparent paradox of chirographic agraphy being nowadays much more common than a technographic one. It is not clear what this means, however. Small children presumably always begin to draw, but we ignore it they would do it spontaneously, without incitement from parents or teachers (cf. Gardner 1973, 1980); but it is even less obvious that we should expect babies to start taking photographs all of their own. In fact, to the extent that a photograph may be produced, as the Kodak slogan goes, simply by pushing the button, the child should be able to discover the method; but on the other hand, the functionality of the camera would seem to be much less apparent than that of the pencil, and thus harder to detect. Of course, not even Barthes would argue that the ability to take photographs is really innate; but like the ability of decoding pictures generally, to acquire it may require experience of the world, rather than experience with pictures (cf. Sonesson 1989a).

On the other hand, if we take drawing ability to imply the capability of producing the illusion of a likeness, a lot of inculcation may be necessary for someone to gain this ability, and may not even be sufficient, as most of us have been trained to draw at school for years, and are yet unable to draw in this strong sense of the term. Indeed, it is possible that no children would proceed from the phase of making scribbles of a surface to intended depictions, unless guided on the way by the expectations of adults. But then again, if some stronger requirement than being able to push the button is put on photography, we should certainly discover that some

degree of training is indispensable. However, it seems to be a fact that any one of us may pick up a camera, decide on a motive, and produce at least a rough likeness, while being unable to do the same thing using pen and paper.

If drawing ability requires training, and photography less so, then this is not a fact about the nature of drawing and photography, but a consequence of their different nature. That is to say, Barthes's third aspect is not really on the same level as the other two. So now we should inquire into the possibility of some of the other aspects being the requisite cause for the different need of training. Actually, we are not concerned with two independent phenomena: rather, what we have in the case of drawing, according to Barthes, could be paraphrased as a *set of rules for mapping perceptual experience onto marks made with a pen on paper; and these rules imply a particular segmentation of the world as it is given to perception, picking up some (kinds of?) features for reproduction, while rejecting others, and perhaps emphasizing some properties at the same time as others are underplayed; and all this takes place under given historical circumstances, which are responsible for varying the emphases and the exclusions* (cf. Sonesson 1989b). Stated in this way, the theory certainly seems feasible. The question is, would it not also be valid for photography?

Indeed, photography must suppose some rules of transposition, at least as far as the two-dimensional rendering of three-dimensional objects is concerned. Each two-dimensional dot on the photographic plate actually assembles the coordinates of a three-dimensional spot in space (and, of course, in time). These rules of transposition, whatever their origin, are built into the optical apparatus which is a part of the camera giving rise to the images, and are thus not mediated by the consciousness of the picture-producing subject. It is of little avail to determine to what extent the photographic perspective is a direct, historical descendant of Alberti's devices for transposing space into drawing (for that kind of argument, see, for instance, Ramírez 1981, p.16 1 ff.); for pictorial perspective, while it is not identical to real perceptual perspective, is certainly in no way arbitrary (cf. our discussion of perceptual psychology in Sonesson 1989a). Rather, the point is that *these rules, even if originally conventional, are incorporated into the apparatus, and thus not present to consciousness in the actual process of picture production*, but are pragmatical givens, prior to the inception of that process, just as is the subject matter itself.

Is it then true, as Barthes (1964a, p. 34 f.) suggests, that

le dessin ne reproduit pas tout, et souvent même fort peu de choses, sans cesser cependant d'être un message fort, alors que la photographie, si elle peut choisir son sujet, son cadre et son angle, ne peut intervenir à l'intérieur de l'objet (sauf truquage)?

Of course, there is an obvious sense in which we must object that nor does the photograph render all of the object, and this is so in part for reasons that Barthes himself goes on to quote in the text above. Indeed, I have noted elsewhere three "intrinsic indexicalities of picturehood" (cf. Sonesson 1989a, p. 60 ff.):

(IVa) A factoriality between the content and the referent, i.e. between what is seen in the picture and what is thought to be "there" in the world (between the picture object and the picture subject, in the terminology of part III.) The referent can probably never be rendered

in its entirety in a picture: we will have to make a choice among the possible noemata, the possible attributes, or both, and maybe also among the proper parts, and obviously (if we exclude X-ray pictures, and so on), we are limited to attributes and noemata having the attribute visibility (cf. I.2.4.). (IVb) Protained continuities (cf. I.2.4.) from the expression plane of the picture to the expression plane (and thus the content) of other pictures, real or only possible ones. This indexicality type is often complementary to the first one. (IVc) A contiguity, more precisely an abrasion, between the expression and the second element, which may sometimes be the referent (as in photography, according to Peirce).

In fact, apart from the imprint of the object left on the photographic plate, which so much interests Dubois, Vanlier, and Schaeffer, and which is our last type of indexicality, there are at least two other kinds of indexicalities,²² intrinsic to every picture, and thus also present in photography: the factoriality, or part/whole relationship between the content and the referent, which may be conceived in terms of attributes, proper parts, and/or perceptual perspectives, and the continuities extending from the lines of the expression plane interrupted by the border. These latter two types of indexicality confounded are also considered to be peculiar to photography by Dubois. This may be exaggerated, but they are certainly *present* in photographs, too (cf. Sonesson 1989b).

In terms of the factoriality between content and referent, however, Barthes may be taken to claim that photography is able to pick up particular proper parts (“son sujet”, “son cadre”) and perceptual perspectives (“son angle”) of the whole motive, but cannot choose to render just a few of its attributes. In some all too obvious ways, this is false: for essential reasons, photography only transmits visual properties, and it only conveys such features as are present on the sides of the object fronting the camera. Also, depending on the distance between the camera and the motive, only features contained in a particular range of sizes may be included. So far, no trick photography is involved. However, it seems to be true that, without recurring to later modification of the exposed material, *photography is merely able to pick up features, or restrict its selection of features, on the global level*, whereas in drawing, local decisions can be made for each single feature (cf. Sonesson 1989b).

Now we know from cognitive psychology and brain research (see Gardner 1982, pp. 283 ff., 322 ff.; Gardner 1984, p. 173 ff., discussed in Sonesson 1989a, p. 97 ff.), that centres in both halves of the brain are involved in the production of an ordinary drawing, the right half contributing contours, configurations, and overall organization, and the left half determining the details and inner elements, and the richness of their variation. In Piagetean terms, both figurativity and operativity are required. But since the elaboration of a photograph seems to be consciously mediated merely on the global level, we should expect photography to be a much more exclusively figurative business. Put bluntly, photography does not require any real perceptual analysis on the part of the photographer.

Both Gubern (1974, p. 50 ff.; Gubern 1987b, p. 156 ff.) and Ramírez (1981, p. 158 ff.) have made lists of the various ways in which a photograph is different

²² Indexicalities, as they are defined in Sonesson (1989a), are not indexical signs, because they fail to fulfil the requirements of having discontinuous parts, but under certain circumstances, they may be exploited for the building of signs.

from that reality it is supposed to render. It seems that, in all these cases, we are confronted with modifications that are *globally* applied to the depicted percept. In the following, these rules of transposition are listed (those of Gubern are marked G, and those of Ramírez R), and I have tried to distinguish those which are valid for all pictures from those which affect photographs only, and those to which all photographs are subject from others which are largely optional (cf. Sonesson 1989b).

(1a) The abolition of the third dimension applies to all pictures, but the possibility of modifying perspective by means of exchanging objectives is of course peculiar to photography (G); (1b) the projection of real-world three-dimensional space onto a surface of two dimensions, using perspectival grid, may apply to all pictures, but is obligatory in the case of photographs (with the exception of photographs; R). Perspectival systems, as used in photography, must be globally applied. In drawing and painting, if used, they are always locally modified, at least to adapt to common objects, whose shape is better known than seen. (2) The delimitation of space through the frame is something that applies to all pictures. However, only in the photograph can this delimitation be specified by the formula $f:h=d:c$, where the dimensions of the included space (c) depends on the focal distance (f) of the objective, the distance between the camera and the motive (d), and the size of the photo (h) (G). There is no formula for determining the corresponding dimensionalities of the drawing, since this cannot be globally determined.

(3) The *exclusion of movement* is also true of all pictures (that is, of all static pictures, and not, most notably, in the cinema; G). Gubern clearly thinks of the movement of the motive, but there is also a limitation of the gaze itself, as noted by Ramírez in point 4 below. (4). *Monofocal and static character of vision* ®. Most pictures are monofocal, that is, they depend on Cyclopean vision, although cubism and split representation are exceptions among chirographic pictures. More importantly, perhaps, the static character of vision means that in addition to the movement of the motive that of the subject is excluded. Of course, early photography, with its long times of exposition, really assembled information from the motive over a large period of time—but the result was very different from the perceptual syntheses of ordinary human vision.

(5) *Granular, discontinuous structure of the expression plane* (though largely irrelevant because of perceptual limitations of the human eye; G) is of course characteristic of photographs (though may be imitated by the filters of computer graphics programs). Curiously, even Vanlier and Dubois insist on this granular character of photographic representation, and Lindekens is of course intensely concerned with it. However, as Gubern suggests, this granular structure is largely irrelevant, and it has nothing to do with features of a linguistic kind, for the same reason that Eco's typographic screen has nothing to say about the nature of pictorial expression (cf. Sonesson 1989a, p. 241 ff.).

(6) The abolition of colour in black-and-white photography and the distortion of colour in colour photography; possibility to modify colours, their luminosity and saturation (G) exist to some extent in all pictures. Of course, "photographic colours", as Husserl (1980) put it, are unable to render the range of colour differences in perceived reality; but we know from perceptual psychology that this range

is even more diminished in painting, and even here largely on a global level. (7) Possibility to modify the scale of reproduction (G), this possibility (which is almost always taken advantage of) is present in all picture making, but only in photography is there a necessity for such a rescaling to apply globally.

(8) The *abolition of non-visual stimuli* clearly applies to all pictures (so far, at least; G). (9) Finally, there is the limitations to scenes having a certain range of luminosity $\text{\textcircled{R}}$ —that is to say, since photography requires light, there are certain scenes, to which our eyes may be able to adapt sufficient to recognize at least some shapes, that cannot be rendered photographically.

Although Ramírez talks about photographic conventions, his rules do not go a long way to conventionalize photography, and Gubern does not even make that kind of claim. Lindekens, however, is actually out to establish the conventionalist character of photography, in a sense comparable to that in which verbal language is so considered. Putting together the accounts assembled from different texts, I believe that Lindekens, in addition to a rather unclear argument for double articulation, may be said to offer us essentially two phenomena for consideration. There is the mutual dependence of contrasts and nuances, which cannot both be true to reality, which we considered in the first section. And there is the possibility to redefine, by means of high contrast, the limits of real-world objects in the photograph. Both these factors really concern modifications of the referent as transposed into photography, but are they global changes?

We have already observed that Lindekens's opposition contrasted versus nuanced has nothing to do with a linguistic opposition, in spite of Lindekens's own claim to the contrary. But clearly, the dependence of contrasts on nuances is a restraint on the possibilities of transposing objects into photography, and as such it applies to the photograph as a whole, whereas in a drawing, contrasts and nuances are freely correlated. Also when high contrast is used to redefine the limits between objects, this contrast applies to the photograph overall. Since the photograph must be focused somewhere, it is clear that effects like these will not manifest themselves equally all over the photographic surface. However, this does not mean that local decisions become possible also in the elaboration of the photographic expression plane (this is only true of the subsequent treatment of the emulsion), but only that the global decisions have a thematic centre where they apply fully, the consequences being less determinate, or less developed, as we go from the centre.²³

Even if, contrary to Barthes, I have admitted that even the photographic images obey certain rules of transposition, I have not thus far established the arbitrariness of photography, in the sense in which Saussure uses this term. Indeed, a rule of transposition supposes there to be some entity that is transposed, however changed, as a result of the process. Let us now consider the double sense of arbitrariness in the work of Saussure, and compare them to some of the ways in which convention enters photography (cf. Sonesson 1989a, p. 201 ff.). In the first sense, it is affirmed that there is nothing consubstantial to the thing designated and the sound used to indicate it, these sounds being different from one language to another. As compared

²³ See the discussions of Vanlier's "minceur de champs" in the following subsection!

to this, it is true that the photograph, as any picture, is a surface, while that which is depicted is most of the time a three-dimensional object; but both are visually characterized phenomena, creatures of light, so to speak, and they give rise to an impression of similarity.

In the second sense, it is claimed that the way in which verbal signs cut up and parcel out reality does not obey any rule intrinsic to reality itself, and so is arbitrary, and shifts from one language to another. However, even in the case of verbal language, this is only relatively true: first, it is certainly more plausible to think that the segmentation of the world accomplished by language follows the one laid down beforehand by the particular sociocultural lifeworld; and second, we have nowadays substantial evidence from cognitive psychology which tends to show that the differences in categorization are not so great, at least on elementary levels, as was once thought (cf. Sonesson 1989a, p. 65 ff.). Although photography, perhaps more than any other kind of picture, is able to detach things from their perceptual context, it does not offer a new segmentation of perceptual reality in a strong sense. Actually, photography can only be said to be arbitrary in a third and a fourth sense: in that it renders only some particular portions of perceptual reality (visual reality, under certain conditions of luminosity, etc.), and that it reproduces this reality as far as this is possible given the nature of its support (the emulsion, the optical device, etc.). This directly brings us to the issues treated in the next subsection.

Before we proceed to our discussion of indexicality, however, two other concerns will retain us briefly. First, there is Lindekens's belief that a double articulation, and thus conventionality, can be established in photography, since the latter theme has traditionally been linked to the former. I consider this argument ruled out by our general study of pictorial semiosis (in Sonesson 1989a, p. 251 ff.). If minimal units are to be considered, then Vanlier's observation that, whereas drawings use lines, those of photography are patches ("des plages"), is more to the point; still this leaves us with the question of how to differentiate, for instance, photographs and cut-outs.

Second, it should not go unmentioned here, that whereas photography, because of its lesser degree of conventionalism, may seem to stand further apart from the prototypical sign than chirographic pictures, it at the same time acquires for picturehood one of the other traits usually associated with the sign: repeatability, or *iterability*. Ivins (1953) early on insisted on the historical importance of the introduction of means for rendering the picture identically repeatable, the first of which were engravings, in particular as used in florals. But of course, engravings do not repeat indefinitely, each printing involves at least some small modifications, and, before the addition of photographic processes, later prints could only indirectly convey the facture of the original. As is well known, Benjamin (1974) thought only photography would make possible the reproducibility of the pictorial sign (or, more precisely, of the work of art). More recently, Ramírez (1981, p. 17 ff.) has conceived the whole development of a visual mass culture as a progressive iconographical densification, that is to say, an augmentation of pictures per inhabitant on the globe. When more closely scrutinized, this densification is actually seen to involve at least three different processes (not properly distinguished by Ramírez):

1. That the production of images having been made less costly, in particular in terms of what Moles calls the time-budget, the number of images-types have been increased.
2. That since the means of reproduction have been perfected, more and more adequate images-tokens may be made from each image-type.
3. That images that were at other times only accessible in a small number of spaces, such as churches and palaces, are now circulated more widely—and, if we think of such channels as television and reviews, more actively circulated, issued somewhat more explicitly as directed messages, thus being more similar to verbal messages. The Internet obviously permits an even wider circulation, but, on the whole, the message may appear to be less actively circulated (except in e-mails).

There is a final paradox to be considered, however. Ivens pinpointed the importance of repeatable reproduction for scientific work, in particular as used in biological treatises; and, according to my argument, repeatability of pictures is perfected by photography; and yet, even today, floras continue to use drawings rather than photographs. This is because in a flora, not only the original must be identically reproduced but also the former should reproduce the plant-type, not a unique plant, and for reasons of which Barthes was clearly aware, chirographic pictures more easily leave out irrelevant attributes than photograph (as discussed above). What this means, then, is that what photographs reproduce is, at least in a comparative sense, not the object-type, but singularity. This explains that, much later, when reflecting on photography, Barthes (1980, p. 21) would dream about a *mathesis singularis* (also cf. Delord 1986). Yet he fails to see, that although the production of photographs is singular, its sign function is not.

19.3.1 Introduction to a Theory of Traces: Aspects of Indexicality in the Work of Vanlier

Let us now have a fresh look at the nature of photography, considered this time from the point of view of indexicality. I will scrutinize the somewhat overlapping yet distinct theories on this matter that were developed more or less at the same time by Vanlier and Dubois. It should be clear from the beginning that in what follows, I can only pick out a few of the themes touched on by these authors. To familiarize oneself with their full theories, there is, as always, no other method than to read their books.

I shall have no quarrel with what, on the face of it, appears to be the essential issue: there is actually an indexical relation, in this case a contiguity, between the photographic expression plane, and one or more objects present in the real-world situation in which the photograph was produced. In terms of my earlier investigations, however, an *indexicality* is not yet a sign (cf. Sonesson 1989a, p. 30 ff.). Thus, we still have to inquire into the nature of that kind of indexicality which is present in photography, to see if it is susceptible of being the carrier of a sign relation; and

then we have to investigate if in actual fact it does carry one, and if it always does. In my discussion of the work of Vanlier and Dubois, I in particular hope to address the first issue.

When photographs are said to be indexical, *contiguity* is always meant, and a particular kind of contiguity at that: a contiguity close enough for the referent to rub off on the expression plane of the sign, albeit not contemporaneous with the semiotical functioning of the sign, but more or less anterior to it.²⁴ Inspired by the parallel between Peirce's conception of indexicality and abduction, and Sherlock Holmes's famous method, which has been explored by Sebeok, Eco, and others, I have suggested elsewhere (in Sonesson 1989a, p. 30 ff.) to term *abrasion* an indexical relationship resulting from *the fact of what is to become the referent having entered into contact with, on some prior moment of time, and then detached itself from, what later is to become the expression plane of the sign, leaving on the surface of the latter some visible trace, however inconspicuous, of the event.*

At this point, it will be useful to attempt a more systematic description of abrasion, so as to locate it among other kinds of indices. In an earlier work (op. cit.), I have argued that there are essentially two kinds of indexical relationships, that of *factoriality*, by which term I refer to the relation from part to whole, or the inverse, and that of *contiguity*. In the case of abrasion, it is contiguity, not factoriality that is involved in the constitution of the indexical relation; in particular, it is direct contact, not mere contiguity that is so involved. Furthermore, the event producing this contact took place at a moment prior to the use of the sign as a sign, not at the same time, or before it; and it left some traces of its occurrence on the object presently functioning as the expression plane of the sign, so that the interpretation of the sign is not entirely given over to abductions based on historical knowledge. So far, all I have tried to do is to clarify the common-sense notion of abrasion, in particular so as to include among its number not only the "trifles" scrutinized by Sherlock Holmes but also the photographic picture. It must be left to the following discussion to find out if this conception is feasible, or if it has to be modified.

Now, let us have a look at Vanlier's interesting observations on the nature of photographic indexicality. He begins by making a host of distinctions, the first of which concerns what the photographic imprint is an imprint of, and which is very much to the point, which makes it all the more regrettable that he later forgets to make use of it himself, and the second of which implies, by the contrast of terms in introduction, that it is not really the Peircean notion of indexicality which is employed. Indeed, Vanlier remarks that the photograph must be taken to be a direct and certain imprint of the photons only, and merely an indirect and abstract one of the objects depicted. Thus

²⁴ It is because Barthes always maintained, from his earliest to his last work on our theme, that the photograph conveys the idea, when observing the scene depicted, of "cela a été", that Dubois is able to muster him also among the supporters of indexicality. But this is of course a very indirect way of invoking indexicality, for it merely attends to the temporal aspect (on which see my discussion of Schaeffer below), not to the contiguity from which it may be taken to result, nor its particular modes. That is, Barthes reads indexicality on the purely ideological plane.

Il ya donc eu un événement, l'événement photographique: la rencontre de ces photons et de cette pellicule. Cela a certainement été. Quant à savoir si à cet événement physico-chimique en a correspondu un autre, un spectacle d'objets et d'actions, dont les photons empreints seraient les singaux en tant qu'émis par eux, c'est beaucoup plus problématique et demande à être soigneusement précisé. (Vanlier 1983, p. 15)

One should expect, then, that Vanlier would find it necessary to problematize the requirement of similarity in photographs, that is, the obligatory correspondence of a photograph to a recognizable scene susceptible of taking place in the ordinary experimental world, but as a matter of fact, he never broaches the theme. Dubois does, however, as we shall see, for he selects as the typical instance of a photograph what has been variously termed a Rayogram, a Schaadogram, or a photogram: the direct impression by contact of the (more or less deformed and often unrecognizable) shapes of objects placed directly on the photographic plate, and subjected to a light ray taking its origin on the opposite side of the objects.²⁵

We will have to judge this analysis on its own merits later, but we should already take notice of the curious fact that, only a few pages after having attributed all imprecisions of the theories of photography to the confusion between the photons and the objects (p. 15), Vanlier himself starts telling us that the indices signal their cause, which is the scene (“des indices, qui signalent leur cause, le spectacle”; p. 23; “renvoient à leur cause (à leur spectacle éventuel)”; p. 25), and then goes on all through the book contributing to the imprecisions he originally denounced!

There is, however, another problematical features of this approach, and that is that while we may certainly be on safer ground in claiming the contiguity relationship to hold between the plate and the photons, than when we attribute this same relation to the expression plane of the photograph and the objects depicted, there can be no doubt that, when the photograph is seen as a particular kind of pictorial sign, this is because it is taken to be a *sign of* the objects depicted and/or of the real-world scene in which the objects are present. *The contiguity relationship potentially characterizing an index does therefore not obtain between the same relata as the semiotic function, defining the sign as such, and there thus would not be any indexical sign present in this instance* (cf. Sonesson 1989b). In fact, even in the case of the photogram, the sign relation connects the photographic surface and the objects, not photons or light.²⁶

²⁵ It is interesting to note that Schaeffer (1987, p. 59 f.) explicitly rejects the photogram as a candidate for consideration, although he does not mention Dubois's divergent opinion. However, it certainly seems clear that the photogram is not the first instance of a photograph we would think of, and thus not the one from which the properties of the prototypical photograph may be derived. Cf. discussion of Schaeffer in II.4. below!

²⁶ Schaeffer (1987, p. 59 f.) suggests we should distinguish scientific uses of the photogrammatic technique, as those of Fox Talbot, from the abstract compositions of Moholy-Nagy, and the surrealist-figurative works of Man Ray. However, if the objects are recognizable or not, their presence in the confection of the photograph remains an essential definitional criteria of photograms, and they are thus involved in the sign relations characterizing the photograms as such. Similar shapes may equally be produced by applying some implement directly to the photographic emulsion, but the result is then no photogram.

This may not be too serious in the context of Vanlier's own theory, for the next distinction introduced will anyhow bring us out of the Peircean framework into a conceptual no man's land.²⁷ According to Vanlier, we should distinguish "des index" and "des indices", a proposition that is impossible to translate into English, since the first term employed there is merely to express the singular, while the second one is used only in the plural. Of course, if the distinction as such were found useful, it would be possible to find some alternative terms to do the same business. So let us have a look at the conceptual point that Vanlier (p. 22 ff.) is out to make.

Signs, in Vanlier's view, are intentional, conventional, and systematic. However, some signs, such as sculptures and paintings, are analogical, because there is a kind of proportion between them and that which they designate. Other signs, however, like words and digits, are digital, because they designate things by means of labeling them in terms of a system, which is reducible to a set of binary choices between one and zero.

Those things that Vanlier wants to term "des indices" are neither intentional, nor conventional, nor systematic: they are physical effects of a cause, which they indicate in an equally physical way.²⁸ The general category, of which these are a type, and which is opposed to signs, is termed signals by Vanlier. As against this, there are what Vanlier calls "des index", typified by the index finger and the arrow pointing to an object, and these are signs, because they are intentional, conventional, and systematic, although they are very elementary kinds of signs, for they do not designate anything, but they only indicate it. Interestingly, Vanlier (p. 23) apparently thinks photography importantly involves also this latter type of sign: it is present when, by means of the choice of film, lighting, or a particular type of frame, some part of the photograph is isolated for particular attention. Here we encounter, among others

²⁷ Vanlier's book is notorious for containing no references to the work of other thinkers in the domain, but it does contain a short appendix, in which the author marks his distances to, among others, Peirce. In particular, our author takes Peirce to task for confusing "l'index" and "l'indice", and he claims that the interesting things which Peirce says about his "index" really applies to what is ordinarily designated by the term "index" in French. Curiously, Dubois, who is much more of a real Peircean, rejects Vanlier's distinction offhandedly, but Schaeffer, who also claims to follow Peirce, adopts a favourable stance to it.

²⁸ There are two types of such "indices", but their difference never becomes very clear, at least not to me:

"Les indices ne sont pas des signes, ce sont des effets physiques d'une cause qui signalent physiquement cette cause, soit par monstration, comme l'empreinte de la patte du sanglier montre cette patte, soit par démonstration, quand un déplacement insolite d'objets démontre au détective le passage d'un voleur." (Vanlier 1983, p. 22 f.)

No doubt, the mark left by the horn of the wild boar is an imprint, resulting from abrasion in a very straightforward sense, but the modified arrangement of objects in a room, which is one of these trifles which were so informative to Sherlock Holmes and William of Baskerville, can perhaps only be decoded once the relationship between a number of perceptual units have been scrutinized, and employing a much richer encyclopaedia, but it is not obvious that this is the distinction which interests Vanlier. In any case, in Sonesson 1989a, 60 ff., I have discussed a few cases from the work of the ethologists Ennion and Tinbergen, which would seem to bridge the gap between these two types of abrasion.

things, a number of effects that to Dubois are still indices, in the Peircean sense, and which I have qualified as depicted indices (cf. Sonesson 1989b, p. 213 ff.).

Now to return to the essential point, it would seem that to Vanlier, there are two principal types of meaning-bearing devices, *signs*, which are intentional, conventional, and systematic, and *signals*, which have neither of these properties. Perhaps we may take this to be a variant of the traditional distinction between instituted and natural signs, as found in the work of Dégerando and others (cf. discussion in Sonesson 1989a, p. 201 ff.). Signs are analogical or not; but the third group of signs are not easily integrated into this classification, since the capacity to indicate is quite another kind of property. On the other hand, there apparently are no other signals than those that are physical, that is, those which Vanlier terms “des indices”.

There is no doubt much confusion in Peirce’s notion of index, but Vanlier’s contribution certainly goes a long way to augment it. However, Vanlier is right up to a point: *indicators*, if we may so term signs which are employed to single out an object or a portion of space for attention, are not necessarily indices in Peirce’s sense, and they are, in any event, not sufficiently characterized by being so classified (we already hinted at this fact in Sonesson 1989a, p. 49 ff.; also see Sonesson 1994, 1998). Thus, certain indicators, as pointing fingers and arrows do, suppose a relation of contiguity with that which they point to; but this is not necessary, or even possible, in the case of many verbal indicators, most maps, and the options for making a photograph depending on film, lighting, and frame mentioned by Vanlier, in which case the indicative gesture is merely recreated at the level of content. It is also true that real indicators, such as fingers and arrows, are equally contiguous to a number of objects which they do not indicate; thus, mere indexicality will not do, but something more is required, in the case of the arrow, for instance, the forward thrust of the arrowhead as imagined in water, or the sentiment of its slipping from our hands, as Thom has suggested.²⁹

The attitude, which we may take on these distinctions, in the end, depends on a more general issue, viz, the receivability of the opposition between signs and signals, reposing, as it does, on a threefold opposition of conventionality, intentionality, and systematicity. For reasons, which it would be too long to broach here, and which have been abundantly discussed in Sonesson (1989a), there can be no signification without a semiotic consciousness. All objects and parts of the universe interact, more or less, directly, and thus will physically affect each other, but most of these interactions are neither detected nor detectable by human beings (or animals). From a physical point of view, the production of a single photograph depends on an

²⁹ To term certain signs “indicators” is, obviously, to make a categorization of signs on the basis of their functions, as seen in relationship to the overall scenes in which signs are produced. We should not expect this categorization to coincide with the one stemming from Peirce’s classification, which depends on the nature of the relationship between the expression and the referent of the sign (or the content; both are contained in what Peirce’s calls the object, in so far as this by now traditional distinction can be identified with the one made by Peirce between the immediate and the dynamical object). Of course, from this point of view, the term “index” is a misnomer, for although the finger known by this name may function as an index, it is not just that, as I said above. Unfortunately, Peirce certainly confused the two classifications, which explains his use of the term.

infinite list of factors, some of them stemming from the inception of the universe. Therefore, we can only be interested in those of these factors that somehow stand out to human consciousness, and thus carry signification. In this sense, Vanlier's notion of "indice" is conceptual nonsense, for either the physical effect is also a signification, or it is not merely physical.

Of course, in becoming present to consciousness, the trace does not necessarily acquire any high degree of systematicity, but neither is it obvious that those signs which Vanlier terms "index" possess it. As for the conventionality of these significations, they possibly only derive from the fact of certain traces having been highlighted, while others are neglected, but something similar could be true of Vanlier's analogous signs. Again, they are of course not intentional *as traces*, but certainly as *significative* traces. Thus, while there may be differences between these significations and those present in, for example, verbal signs, it appears to me to be conceptually unsound to erect watertight bulkheads between them.

In spite of the doubtful nature of those of Vanlier's distinctions we have considered so far, we shall find that he has greatly contributed to the understanding of photography by attending to the peculiar nature of the photographic trace. Thus, let us now take up for discussion those different features that, according to Vanlier, make the difference between the photographic trace and other imprints.

The first of these properties is intimately connected with the fact that the photographic trace does not result from the objects themselves, but from the photons emitted by the objects. The photonic imprint lacks all weight, it does not have any impact, contrary to the horn of the wild boar leaving its mark in the mud, nor does it result from any enduring contact with a substance, as does the blotches found on fabrics. Indeed, Vanlier says, the photons can hardly be considered to form a substance. Suntan really transforms us into living photograms.

This is interesting on many counts. First of all, photography would seem to acquire for picturehood that immaterial quality which, according to Enlightenment semiotics, made the advantage of verbal language (cf. Sonesson 1988). This is of course not really true, for the photograph, as such, just like any picture, is a stubborn material fact, a piece of paper with markings on it; only slides go some way in the direction of material elusiveness, at least if the picture *seen* is that which counts, the projected illusion, and not that which makes it seeable, the slide itself (cf. Sonesson 1999b, 2001). In fact, what seems to be immaterial in photography is only the process by which the picture is produced, not the result.

More importantly, while there is certainly a physical contact between the photons and the photographic emulsion, in the sense of the natural sciences, there is actually nothing physical about this contact, if the term is given the sense it has in the lifeworld. There is no pressing of an object on another, as is the case in printing, engraving included, although the latter may not require much of an impact, nor any extended duration.

The second property to which Vanlier attends is not only the distal character of the imprint but also the particular modality of this distance. He observes that the photons projecting themselves on the photographic surface take their origin at different distances in space, that is, that they are defined by a volume; and, further-

more, that it is those photons which stem from the distance at which the camera has been focused that produce the best differentiation on the photographic surface, whereas distances situated before or beyond that point are less differentiated. As Vanlier himself remarks, this gives the imprint a doubly abstract character. And since it is really only a small layer of space that is adequately reproduced on the plate, he suggests we should talk about a “*minceur de champ*”, instead of the traditional term “*profondeur de champ*”.

This is of course one of those transpositions which we took up for consideration in the last section; and, as I said there, it really applies globally to the entire volume reproduced, so as to stratify its reproduction on the plate. It does give us the choice of attending particularly to a single portion of space, but then the rest of the scene is defined as a matter of course. We now see, however, that not only is a central point in space picked up from the device of framing but so is a particular layer in depth of the scene encompassed. Unlike what happens in natural perception, the perspectival adumbrations are doubly arrested.

The framing of the photographic imprint happens to be the third of the properties listed by Vanlier. There is nothing corresponding to the borderlines of the photograph in the activities of the photons, nor in the scene from which they stem. The shape of the lens, on the other hand, should make us expect a circular form, but instead a quadrangular one is imposed. Vanlier claims that this is very different from the way the frame was used by the ancient painter, as at network thrown on the scene, but his arguments really seem to suggest the opposite conclusion. As we shall see later, also Dubois thinks the frame takes on a very different function in photography than in painting, though again for rather obscure reasons.

The fourth property on Vanlier's list is the isomorphic character of the imprint. This means that the photons give rise to rigorously calculable equations, which make it possible to situate exactly their origin in space, and which is used in geological and astronomical photography. However, being isomorphic in this sense, and in addition Cyclopean, the place of photography is no real place. Vanlier's point does not become quite clear here, but certainly it points to the fact that photographic space is not actual, lived, space.

This would then be the same point as Vanlier then goes on to make, as far as time is concerned. Photographic time, he says, is physical time, not a time that may be experienced. No matter how long the time of exposure, the imprint itself is synchronic, for it is only the arrival of the last photon that may be calculated, to the exact milliardth of a second.

As we shall see when discussing Schaeffer's theory, this may not be the only time of photography. However, we must investigate, at this point, to what degree these characteristics of time and space in photography make photographic imprints different from other kinds of traces. Unfortunately, the issue of space remains too obscure for us to make any profitable comparisons, so I will ignore it for the moment.

As far as time is concerned, we must distinguish two aspects. If we compare the photographic trace to, for instance, the imprint of a footstep, or a fingerprint,

we will find that they also give us a synchronic record of what is actually a time-distributed process. Of course, like the photographic blur resulting from the camera having been moved during the exposure, the deviations of the borderlines from the canonical shape of a finger or a foot indicate to us that these have occupied different placements inside the limits of the trace, but the imprint only conserves for us the last phase of the process to inspect. On the other hand, there is no obvious way for us to calculate the time of arrival of the last foot or finger impression contributing to the formation of the imprint we are about to read. Again, other traces are time distributed, just as the processes they are traces of, though perhaps not to the same degree: such are, for instance, geological layers, and the annual rings found in a tree.³⁰

Furthermore, since the photograph, as it is normally conceived, is in the positive, that is, it is the inversion of the image produced originally on the photographic film, we really have a negative of the negative. This explains that, in viewing a photograph, concave parts may take the place of convex ones, and vice versa. To us, the most interesting aspect of this, not particularly highlighted by Vanlier, is that this amounts to another stage of indirectness in the process of photographic impression.

The seventh property singled out by Vanlier is the fact that, although clearly analogical, the photographic imprint is also digital; that is to say, it may be analysed as a series of choices between points which are blackened and which are not, also describable as a collection of ones and zeros. In astronomical photography, points may actually be counted, instead of being perceived analogically. Even though it could be objected that this is not the ordinary use to which photographs are put, we must admit that, even in normal photographs, digital texture is at least a potentiality realized in enlargements. This is of course much more salient in pictures which have been mediated by computers.

We now come to the last property that Vanlier attributes to the photographic imprint, which is that it contains, at the same time, much less information than the real-world scene, and much more. A lot of information is lost, in particular as far as the colours are concerned, where a few dozen nuances are made to stand for the milliards found in reality, and also in relation to the lines, which are transformed into prolonged patches.³¹ On the other hand, since the photograph is immobile and always at hand, we may easily discover new facts in it, which we would never had observed in passing by the motive every day (something which is reminiscent of Peirce's observation about pictures in general). All this is of course true, but there are two things we have to take note of. First, nothing of this really concerns the photograph as a trace (though it does point, somewhat obliquely, to some of its limitations, discussed already in the last subsection), but as a picture. Second, the paradox

³⁰ Incidentally, this may be a case in which the digital version of the record, that is, the variant which is separated into discontinuous units, appears truer to lived reality than the analogous one, in the sense of continuous inscription. Cf. our criticism of the conceptions defended by Goodman and Eco, in Sonesson (1989a, p. 220 ff.).

³¹ This is a curious thing to say, since there really are no lines in reality, only edges which may be represented by lines, and thus no doubt also by prolonged patches. Cf. our discussion of perceptual psychology in Sonesson (1989a, p. 251) and many later articles.

is only apparent, since it is the very reductionism of the photograph (at least in part), together with its frame, which, by introducing a principle of pertinence, makes us see features that had escaped our notice in the motive itself.

It is a curious fact that Vanlier, who started out opposing the physical, and thus natural, character of the trace to the conventional means of indexicality, as the latter is understood by him, manages to build some of the artificial properties of photography into the trace itself, whereas Dubois, just as Barthes, limits the conventional aspects of photography to such interventions of the photographer as modify the arrangement of the motive, and thus *precede* the taking of the photograph, as well as to those manipulations which are applied to the photographic film *after* the picture having been taken (cf. Dubois 1983, p. 47).

Vanlier himself, however, would not seem to realize the consequences of these “abstract” properties of the photographic trace, for the overall impression gathered from his book is that of a defence and illustration of photographic naturalness, to the point of making the latter a simple physical effect. From the way his analysis has been reviewed and commented upon here, on the other hand, it should be clear that the motivated character of the photographic sign is very circumscribed. This conclusion follows from two considerations.

First of all, the photographic sign now appears to be merely an indirect imprint of its referent, and this in a double sense. It is indirect, because the positive, which is normally considered to be the picture itself, is an inversion of the negative, which is closer to being a real trace of the motive (but this chain of intermediary links may be further extended, on the lines suggested by Lindekens 1971, p. 86 ff.). Furthermore, it is also indirect, because even the negative is only a trace of the photons, not of the objects or the scene in any more precise sense.

If this is so, one may wonder whether the photographic image is really very different from the chirographic one, which may also be (though not necessarily) caused by its object, when this serves as a model to the draughtsman, in particular if we take into account the intermediary stage represented by the device called a physio-trace, which, when a lens is made to follow the contours of a body, guides a pencil which takes down the corresponding contours on a paper. The most important remaining difference may really be that, even when a physio-trace is used, there must be a person present who is required at each given moment of the creative process to attend to the motive (in the case of an ordinary drawing also to the drawing he is making), and to decide on how it should be rendered, whereas the production of a photographic picture depends on one single semiotic act, one decision—or, perhaps we should say on two acts, if we want to distinguish the onset and the termination of the time of exposure—even though a host of options (on where to focus, the light to be used, etc.) may have had to be taken, before the act could be accomplished.

The second consideration concerns the limitations imposed on the trace, not by the object, but by the support on which the trace is inscribed. Some of these are mentioned by Vanlier: the quadrangular shape of the photograph, its digital nature, the information it leaves out, its inability to record the temporal aspects of

the process giving rise to the trace,³² etc. But this may be restated by saying that *the photograph is not only the trace of the objects, or even the photons, but also of the properties of the film, of the lenses, of the photographic device generally, of the space travelled through by the photons, and so on.* As Ennion and Tinbergen point out in their study of animal traces, the same animal will leave different traces on different ground—and so will the same photographic motive, as we already observed in Sonesson (1989a, p. 60 ff.).

In the passage referred to above, we also extended Black's (1972, p. 101 ff.) argument against the "causal history" approach to pictures, according to which the picture results as much from the camera's focal aperture, its distance from the motive, the exposure time, and so on, as from the motive. Some of Peirce's definitions of the index claim it to be based on a relationship of cause and effect, and the same thing is true, as we remember, of Vanlier's notion of the "indice". Thus, Black's argument certainly applies here, but it could yet be objected that now that, with the help of Vanlier, we have isolated some peculiar properties of that kind of index or "indice", which is not only an effect of a cause but also a trace in a literal sense, we can claim that the motive is different from the other causes involved in producing the photographic effect, precisely in being a trace.

The first objection, which we would make to this objection, is that while Vanlier has gone a long way to specify what kind of trace the photograph is, he has done very little to elucidate the peculiarities of that index (or "indice", in his terms), which is a trace (though our analysis of "abrasion" above contributes a little to that task). There is a more fundamental rebuke to be made, however, which consists in observing that there is really no intrinsic reasons for considering the cause producing a trace (and even so, we have seen that many more causes than the motive may be held responsible for the trace) to be a more important type of cause than the others. Indeed, *we can only explain the importance of the motive, when we realize that a trace, in the most central sense of the term, contains not only indexical but also iconical aspects*, and if we begin by admitting that a photograph is a kind of pictorial sign, and that all such signs are first and foremost grounded in the illusion of similarity.

Before we return to this issue, however, we must consider some aspects of Du-bois's indexical theory—first, the particularities he attributes to indices generally, and second, how he thinks photographic indices differ from other ones.

³² It is certainly true of most commonly made photographs, as Vanlier claims, that they constitute records only of the ultimate state resulting from the cumulated photonic imprints left by different temporal slices in which the object is present to the camera, that is, as Vanlier puts it, that they are defined by the arrival of the last photon. There are, however, certain kinds of photographs, such as "the impartial record of the finish of a horse race", which are made by a particular camera having no shutter, and which therefore produces a single picture showing the horses distributed in space in the way they were really ordered in time, that is, in the order in which they arrived at the finish line. In fact, to quote Snyder and Allen (1982, p. 77), from which I take this example, "every point in the photograph is the finishing line". This means that the photograph may be read as a record of different temporal layers, just as the annual rings of a tree; therefore, the property attributed by Vanlier to photography should really be ascribed to a particular kind of camera, which happens to be the most commonly used.

19.3.2 *From the General Theory of Indexicality to the Photographic Index: A Critique of Dubois*

Although in the general style of his exposition and his arguments, Dubois is far from being a follower of the rigidly taxonomic schools of Stuttgart and Perpignan, he turns out to be an orthodox Peircean as to the meaning he attributes to the index. According to this conception, every index is characterized, not only by there being a real, physical connection between the expression and the referent (or content), but also by manifesting the principles which Dubois (1983, pp. 48 f., 60 ff.) terms *singularity*, *designation*, and *attestation*. The question, then, is if all indexical signs must really embody these properties.

In order to answer this question, we would need a very clear-cut understanding of what an indexical sign is, but there is no easy way to acquire such an understanding. It is not obvious that there is any way of making all Peirce's different definitions of the index (or of other signs) agree with each other, as well as with all his examples. Furthermore, if we also want to include, in addition, each and every example adduced by later semioticians, the task will become even more difficult, but, surprisingly, it is not certain that these latter examples should be disqualified, even though they might not have been accepted by Peirce. And this is because there is, in Peirce's work, what we may well term a *structural* argument, which could just possibly be weightier than the details of his definitions, and that is that there are just three basic types of signs, so that something which we know to be a sign must be either an icon, an index, or a conventional (or "symbolic") sign—or some combination of these! Of course, Peirce may be wrong in thinking that there are just three types of signs, but if we take this assumption for granted, it is certain that any phenomenon which is a sign, and which is neither conventional nor iconical, must be indexical. So let us now ponder the plausibility of this hypothesis.

We can here only summarize, and somewhat rephrase, an argument which is given elsewhere (in Sonesson 1989a, pp. 137 ff. and 205 ff.). To begin with, we will take the potential index, or the indexical ground, to consist of two units connected by a relation which is not identical to the sign relation, but which are, in the actual index, joined together a second time, in such a way that one of the units serves as expression, and the other one serves as content or referent of the sign. Peirce often says that the relation in question should be real, existential, or physical (1.558; 3.361; 8.335), but it is not clear what this means, over and beyond the fact that this relation is not just the sign relation (as in the case of a conventional sign). In any case, we cannot take this to mean that the index must be based on a spatial relationship, and even less, that it must reproduce the relationship of cause and effect, for in this case, the three sign types will not exhaust the universe of signs.³³ However, it is possible to stipulate, more largely, that all relationships defining indices should be *topologically* describable, and, in that case, that they may all be subsumed under

³³ Perhaps we should really say that, in this case, the index and the icon would not exhaust the universe of signs which are somehow *motivated*, for the Peircean "symbol" is anyhow a kind of residue category.

one of the categories described as *contiguity* and *factoriality* (part/whole relationship). Both these properties may then of course be further specified, in terms of more or less well-known topological relations. At this point, then, we have already established that not all indices can depend on *physical* connection (3.361), if this qualification is to be taken in a familiar sense.

There is, however, a much more important distinction to be made among indexical signs, viz, that between what we shall call *abductive* indices, and another category which will be termed *performative* indices. If we pick out some of Peirce's own most common examples, we may say that deictic pronouns like "I", "you", "here", and "now", as well as an arrow or a finger pointing at an object, or pointing out a direction, are performative indices, whereas footprints and fingerprints, as well as the peculiar walk of the sailor, are indices of the abductive kind. In the former case, the contiguity or factoriality which motives the sign does not really pre-exist to the sign, but is created at the moment the sign is given, although these relations are as such distinct from the semiotic function itself: the pointing finger is really contiguous to the objects it points to, and the sound corresponding to the word "you" is really close to the person so designated, but this only happens at the same time as the signs are produced, and there are no sets of "pointed-out objects" or "yous" which are given beforehand.

The case is very different with the second group of examples. Here we will only be capable of concluding something from the sign, to the extent that we are informed about the existence of some regularities present in our lifeworld, which may be the basis of abductions, or tentative hypotheses, about the relationship between the expression of the sign and its content. This is true of the footprint and the fingerprint, when we may be able to conclude something about something taking place at some particular anterior moment; but it is also true of the sailor's way of walking, and, to add a few non-Peircean examples, of the cross standing for Christendom, the anchor standing for navigation, and so on, where we only seem to be able to conclude, in a very general sense, on the presence of some regular connection.³⁴

Again, we should not confuse these elementary indexical signs with secondary signs, where the indexical relationships hold between objects that in themselves are signs already constituted in other ways. This latter relationship may exist between the respective contents of two signs, in which case we have something similar to an abductive relationship, which is the case in metonymy and synecdoche, in the traditional rhetorical sense; or it may obtain between the expressions of two or more signs, which results in a relationship which has certain similarities, but also differs in some ways, from that of performative indices, and which commonly appears in publicity pictures. There are also some other, in part intermediary cases, which we will not discuss here.

With all this in mind, can we really admit that all indices must refer to an singular instance, which is its referent (cf. Peirce 2.306)? This would seem to be true of all performative indices, and of some abductive ones. An imprint of a horse's hoof may

³⁴ In fact, as I recognized in Sonesson (1989a, p. 49 ff.), there is also an abductive aspect to performative signs, since some, comparatively abstract, generalities must be presupposed.

make, if possible, for the interpreter to determine that a horse, as against a donkey, is the animal having passed by, but normally there would be nothing in the expression of this index itself, which permits him to determine the identity of the horse in question, although, if he knows, as Prieto's observes, that there is only one horse and one donkey inside the fence, he can draw a plausible conclusion as to which individual horse is involved (cf. Prieto 1966; for a graphic illustration, see Hervey 1982, p. 59 ff.). In fact, even in the story of Zadig, or that of the Serendippus brothers, or that of William of Baskerville, the identity of the animal is only ascertained when the observation of the traces is fitted together with certain extrinsic pieces of information (cf. Eco and Sebeok, eds. 1983). It might be argued, of course, that in all these cases, it was anyhow one particular animal which left the imprint; but as I have argued elsewhere (in Sonesson 1989a, p. 38 ff.), in the case of Peirce's own example of a knock on the door, although a particular person must do the knocking, the knock itself just means "there is someone outside the door", unless we possess additional information beforehand.

Let us consider a very different example. The pretzel understood as a sign for a bakery is really an index two times over, one of them in the abductive sense, and the other performatively. As a part of the whole of such objects as are habitually produced in bakeries, the pretzel stands abductively for any and all bakeries; there is no singularity involved so far. On the other hand, in so far as it is placed close to a particular locale, it contributes to designating this locale performatively as being a bakery (though it is certainly not as creative *ex nihilo* as the performative indices we considered above, since it is based on a prior abduction).

It seems doubtful, then, that all indices must point to singular, unique occurrences. Even in the case of a photograph, if we take it to be an index, it is clear that it is not always meant to signify a unique individual. Thus, a photograph of an animal illustrating an article in an encyclopaedia treating of the corresponding species is rather a sign of the species than of the particular individual. The case is not as clear-cut as that of the horse's hooves or the knock on the door discussed above, for it is undoubtedly true that, under given circumstances, even the photograph illustrating the article in the encyclopaedia may serve to identify a unique individual of the species.

Next, let us ask ourselves if all indices must designate, if that is taken to mean that they point to something. No doubt Peirce affirmed that, and so does Dubois. However, we already argued above that the functional category of indicators merely overlap somewhat with the index category, which is defined from the point of view of its motivational link. The pretzel, for instance, does not point to all the other bakery wares, for which it stands, more than in the extremely general sense in which every sign may be said to point to that of which it is a sign. As for the photograph, it does not indicate either in the precise sense in which the arrow or the pointing finger does, but it may certainly be said to designate, in a somewhat less abstract sense than the pretzel. In fact, it does indicate, in the same way as all pictures does, but only *through the intermediary of its iconic layer*: if we recognize a landscape in a photograph, for instance, we may go looking in reality for some part of it to which the picture fits (as tourists are supposed to do). But the photograph is unable by

itself to draw the attention to the object itself, as the pointing finger does, by blind compulsion, or otherwise (Peirce 2.306); and it does not say “there”, as an index should, according to Peirce (3.361), for it does not possess any spatio-temporal coordinates in itself. Speaking of the photograph as an indicator is thus at best a metaphor.

Nor can we claim, in general, that the index attests to the existence of something, in particular in the case in which no singular object is involved. This is obvious in the cases considered above, in connection with singularity. Even in the case of the photograph, we should be careful in accepting too readily this argument. Faked photographs may look exactly as authentic ones; indeed, so may synthetic pictures, entirely fabricated on computer with no real-world motive (cf. Moles 1981). Of course, the latter pictures are no photographs, and so no indices, but the point is, there is no way we can discover this from looking at them. Since Moles made this observation, the ability to make fake photograph has become available to everyone using computer software. We can, of course, have independent evidence for something being a “real” photograph (if that still has any sense), but then we would already be in the domain of symbolicity.

In particular, in the case of the photogram, which Dubois (p. 66) claims is really the prototypical photograph, it is not clear that there is anything, the existence of which can be testified, since often the objects are not recognizable as such, or the shapes are considered to stand for objects. Again, if we consider the many ways in which the motive may be transformed at will in the photographic process, as for example the deformations to which Brandt subjects his nudes, we must ask to what degree the properties the motives manifest in the photographs can be taken to be certified.

According to Dubois (pp. 49 f., 73 f.), all the semantics of photography may be resolved into its pragmatics, and the photograph functions similarly to a linguistic shifter. This affirmation and the comparison on which it is based are not in the least convincing. Consider in effect a typical linguistic shifter like the pronoun “I”. Depending on the point of view, it may be seen to be both more pragmatically dependant, and less so than a photograph. The shifter is produced and used at the same time, and each time it has another sense, namely that person who pronounces it. The photograph, however, has an identical sense each time it used, once it has been produced.³⁵ On the other hand, all uses of the pronoun may be paraphrased roughly by the phrase “the person who speaks here and now”; but there is no way to paraphrase together the meaning of all tokens of the abstract photograph-type.

But Dubois (p. 59) also claims that the photograph should be compared to such phenomena as smoke, dust, and ruins, as well as to sperm and sunburn, and to

³⁵ In this sense, it is absurd to claim that the photograph “est par nature un objet pragmatique, inséparable de sa situation référentielle” (Dubois 1983, p. 93). It is precisely because it is so easily separable from its circumstances of production that the photograph has proved so useful, to the point of creating its own pictorial society in our time. Indeed, unlike the shifter “I”, the photograph of a person may be detached from the scene of its production, and used to identify and characterize the individual in his absence. Cf. in this respect my criticism of Eco’s comparison between the shifter and the mirror, in Sonesson (1989a, p. 284 ff.)—now extended in Sonesson 2003a, b, 2005).

shadows and cicatrices. In our terms, all these indices, unlike shifters, can only be understood abductively, that is, in recurring to the assumption that this instance of smoke, just as other instances of the same matter with which we have been acquainted in precedent lifeworld experience, is related to some fire, that the ruins results from historical transformations of once intact buildings (which is not always true, however), and so on. It is important to note that, although smoke may only appear more or less at the same time as the corresponding flame, or a few instances afterwards, and although there can be no shadow, but at the precise moment that there is somebody or something around to cast it (except in Gothic novels), neither smoke nor shadows are performative indices, since both the units involved clearly pre-exist to the production of the sign, exactly as they appear in the sign.³⁶ The distinction between performative indices and abductive indices is thus not simply a question of temporal horizons.

Dubois's various examples are of course different in many other respects, too. Thus, while the ruin is a material part of that of which it is a sign (if, with Dubois, we suppose it to stand for the building it once was), the smoke and the sperm are merely parts in a much looser sense of the total events, which they refer to. Dust does not only signify the passing of time, as Dubois says, but also, among other things, neglect, or perhaps rather, the conjunction of the two. The cicatrix and the ruin (and perhaps also dust) actually seem to stand for a whole temporal process, in the beginning of which there was a wound or a building, followed by a whole series of events, which end up in the terminal state which is also the expression part of the sign. The shadow and the sunburn, however, are not parts of what they signify (except perhaps in a very loose sense, as ingredients of an abstract process), but rather are produced by abrasion from some other object, and thus seem closer than the others to the photograph. On the other hand, unlike the photograph and the sunburn, the shadow does not leave any permanent trace of its object; and unlike the shadow, the footprint, and the photograph, the sunburn does not produce any likeness.

These considerations already bring us to Dubois's idea concerning which properties constitute the specificity of the photographic index, as opposed to other indices. These are the properties of being "séparée, plane, lumineuse et dis-continue" (p. 94). Let us follow Dubois in scrutinizing these properties one after the other.

To be *separated* is, apparently, to incorporate a *distance*, which is both *temporal* and *spatial*. Dubois rightly observes that such a temporal distance, however small, is even present in a Polaroid photograph, and, correlatively, he claims that there is a spatial distance even in a photogram. Both these distances, on the other hand, are said to be abolished in such indexical signs as the readymade, the happening, the performance, and body art, where the referent itself serves as a sign. Already at this

³⁶ Criticizing functional semiology, as instanced in the work of Jeanne Martinet, Hervey (1982, p. 180) points to the somewhat tenuous basis for describing some types of expressions and contents as being arbitrary or non-arbitrary in themselves. Whatever one may think of Martinet's typology, there is no reason to suspect such a criticism must carry over to the present approach. Although it is true that all signs "select (and in this way 'create') the domain of their referents", such creation is not only more complete in the case of performative indices than in the abductive ones but also made anew each time a token of the sign is produced, whereas in the abductive type, it is intrinsic to the semiotic system.

point, the argument undoubtedly poses some problems. The temporal distance is of course there, and we have already commented on it. As for the spatial distance, it certainly seems minimal in the case of a photogram, if we think of the gap between the objects and the plate; but, as we know from Vanlier, the contact between the objects and the photograph must be mediated by the photons, which is sufficient to produce a distance. In any case, even this spatial contiguity is there only at the moment of production of the photograph, not when it is viewed as a picture, which is the essential moment. Therefore, it seems we should agree with Dubois.

However, it turns out that our author is really thinking of something very different. As it emerges from the examples with which the photograph is contrasted, Dubois takes lack of distance to be the same thing as spatio-temporal coincidence. But it is not at all clear that we should qualify these signs as indexical: there is no two-term relation here, but a term bounded up with itself. More concretely, no contiguity or factoriality is involved. In fact, such signs as these would be called exemplifications by Goodman, and I have myself used that term, along with that of self-identifications (cf. Sonesson 1989a, p. 137 ff.). Even if we admit that there is something vaguely indexical about a whole standing for this very whole, or a part standing for the identical part, this relationship will in any case be abductive, and it does not involve any abrasion. Thus, the comparison does not appear to be very fruitful.

Nor is it really convincing when Dubois (p. 95) claims that the ruin is different from the photograph simply by implying a merely temporal distance. Apart from the observations made above, it should be added that there is no real spatial coincidence between the ruin and the building, since, at the very most, the former is only a part of the latter.

What, however, about the temporal and spatial distances in the photographic trace? Let us reconsider the question from another angle. In a later chapter, Dubois (p. 116) tells us about the inception of art out of the hand impressions made in Lascaux and other caves, and he recounts the story about the origin of painting, as told by Pliny, Quintilian, Plutarque, Vasari, and Alberti. According to the first version of this story, a girl who is sad because her lover is going to leave on a voyage, and who wishes to conserve his looks in memory, uses a piece of chalk to fill in the contours of his body as they are projected on the wall. Thus, there is a projection of light, just as in photography, and then there is the problem of fixation, which is differently resolved in this case than in the photograph. What is indexical, according to Dubois is, in both cases, the projection of light. And just as the filling in of the contours by means of a piece of chalk in the story, photographic development and fixation take time. It is accomplished later, in the fixation bath of the laboratory.³⁷

³⁷ There is another variant of the story, retold by Vasari, according to which a man who saw his own shadow cast on a wall filled in the contours of his body with a chalk. Dubois (p. 123 ff.) rightly observes that this is in fact an impossible thing to do, for in approaching the wall, and in using the hand to move the chalk along the contours, the man causes a continuous series of transformation of the shadow cast by his body. It is an interesting fact, as Dubois remarks, that this dream of being able to make an inscription of oneself in the act of making an inscription is realized by the photographic auto-portrait.

The point of retelling this story and Dubois's interpretation of it here is not so much to signal the incoherence of an approach which first claims the photographic index to be characterized by temporal distance, and then denies indexicality to the photograph we perceive, in order to reserve it for the projection of the object on the film taking place at the moment of total temporal coincidence. Rather, the question is what we shall think about an approach which, in comparing the photograph to the cast shadow, dissociates it from the footprint, with which, on the face of it, has at least a little more resemblance. For clearly, unlike the shadow and the mirror image, footprints and photographs are not constantly changing signs of new objects, but permanent traces of unique, temporally situated events. That is to say, at the instant of projection, the object is inscribed on the photographic plate, although only as a latent image, but nothing of the kind happens when a shadow is cast on a wall.

In fact, in the case of the photograph, the temporal distance is present only when the sign is read, not when it is enunciated, just as we saw before that the spatial distance is. Indeed, at the moment of its production, the photograph may appear to behave somewhat like a performative index (for instance a shifter), but it must be read abductively. However, no abductions could ever permit us to decode the faded images of mirrors and shadow-cast walls.

When it comes to the second trait that, according to Dubois, is characteristic of photographic indices, there is much less to be said, because we have already encountered the properties involved when discussing Vanlier's conception. When Dubois (p. 96) tells us that

le second trait spécifique qui caractérise l'index photographique fait de celui-ci un objet plan: à la fois plat, planaire et plaqué.

then he refers, in a metaphorical way, to the properties that Vanlier terms distalness of the imprint, Cyclopean vision, and isomorphism. What is interesting, however, is Dubois's idea, that when invoking the last of this traits, Vanlier means to refer, "confusingly", as he says, to the fact that, while each single stroke is premeditated by the draughtsman, and may be further changed, and even deleted, the act of the photographer is unique and global, that is, there is only one choice to be made, and everything contained in the photograph is given in the same scale, from the identical angle of vision, and so on. Indeed, this interpretation certainly seems justified from the fragments of Vanlier's prepublication quoted by Dubois (p. 97), but it does not seem to appear in the published version.

It will be noted that, in my earlier work, as a critique and elaboration of other conceptions of photography (Sonesson 1989a, p. 60 ff.), I had already come upon this idea, and I have even tried to show that all the transformations of reality worked out by photography are global in nature. It should be pointed out, however, that before this single act of execution can take place, there is really a whole series of global decisions which must be made, which determine the angle of vision, the focus, the luminosity, and so on.

There is hardly more to be said about the third and fourth properties attributed to photographic indices by Dubois: that they are traces of light, and that they are discontinuous. Unfortunately, Dubois has nothing particular to say about the way

in which the photograph is a trace of light. In Sonesson 1989a, p. 60 ff., however, I commented on this property in the following way:

Only the “photograms” and “rayograms” made by avant-garde photographers such as Moholy-Nagy, Man Ray, and Schaad and preceding the invention of the common photograph in the experimental work of Niepce and Talbot, are really comparable to the footprints left on the ground, light being the operating agent instead of mechanical pressure. When placed directly upon the photographic paper, without a camera obscura as an intermediary, two-dimensional objects will give rise to silhouettes, more similar to tactile noemata than to visual ones, which can be easily identified; but when three-dimensional objects are used and the source of light is moved, the configurations which result are due to complex interactions, not only between the contiguous part of the object and the emulsion, but between the position of the light source and the non-directly contiguous parts of the object. (p. 64).

And I concluded by pointing to the paradoxicality of the fact that it is a camera obscura, which diminishes the contiguity between the object and the expression plane of the pictorial sign, which is needed in order to obtain a configuration, which really suggests a visual perspective on the object, as against a tactile one, and which thus makes it possible to trace the configuration unambiguously back to its real-world source.

And what this suggests, in the end, is that it is some kind of conventionality that redeems photographic indexicality, and assigns to it an iconic function. To these issues, we turn to the next subsection.

19.3.3 The Imprint of a Likeness: Reflections on Schaeffer’s Theory

Although, or rather precisely because Schaeffer’s book is undoubtedly the best contribution made so far to photographic semiotics, I will have comparatively little to say about it. This is because I have found little to criticize, and also because much of the book is not concerned with the problem of photographic specificity, but with picturehood generally, and in particular with photographic picture types. However, two or three remarks on Schaeffer’s conception will permit me to formulate a few remaining considerations, and thus to complete the discussion of photographic specificity.

Many of the points that I have been driving at all through my criticism of the theories of Lindekens, Vanlier, Dubois, and others are explicitly formulated by Schaeffer. Thus, for instance, he states (a) that photographs cannot be explained by conventionality, in the sense in which this term applies to verbal signs (Schaeffer 1987, p. 32 ff.); (b) that there are iconic, as well as indexical, elements in photography (p. 27 f.; p. 101 ff.); (c) that the photograph must be understood as a perceptual unit (p. 18) and, as such, contrary to the photonic image, it is not digital (p. 15; p. 74), nor does this conception admit of the photogram being considered the central instance of photography (p. 59 ff.); (d) that we can only apprehend the photograph as such when starting out from the assumption that it is an instance of the picture type known as photography (p. 41 ff.); and (e) that photography is essentially involved

with time and space (p. 64 ff.). It is, however, in the precise way of conceiving these different issues that I will have to part company with Schaeffer, while returning to some of the themes of my former analysis of picturehood.

There is no need to repeat here my earlier arguments against conventionalist theories of pictorial signs (see Sonesson 1989a, p. 201 ff.). Nevertheless, there is one interesting aspect of Schaeffer's version of this critique, to which we will attend in the following: the fact that he (p. 32 ff.) turns against not only Eco's conventionalist theory of icons but also the parallel conception of indices. In Eco's view, also indices must be conventional, because otherwise they could not be interpreted so rapidly, as when upon seeing a puddle, we immediately conclude that there has recently been a shower. To this Schaeffer objects, first, that, since the puddle is only facultatively a sign, it may as well be apprehended as an obstacle; and second, that it does not obligatorily indicate rain, but may stem from a broken water conduit, or could have been produced by a street-cleaning machine. Thus to establish that there has really been a shower, we would not think of consulting some encyclopaedia to ascertain the interpretation, but we would rather look for confirmatory signs in the sky (cf. my discussion of the weathercock, in Sonesson 1989a, p. 205 ff.). Thus, there is no reason to think that we should be able to conclude so rapidly.

Schaeffer rightly observes that Eco, just as many others semioticians, erroneously identified conventionality with the necessity of something having been learnt, and with the presence of regularities. Learning may result from experience, that is, from having observed natural happenings, which often means the recurrence of certain events. So far there is no reason to object: if these were not true, nothing could be learnt from living and from observing, and all teaching would be based on the transmission of arbitrarily stipulated affirmations. And yet, Eco seems to be justified in thinking that, on seeing a puddle, or at least a certain amount of puddles, we would first expect there to have been a rain, reaching for other explanations only as this first interpretation is counter-indicated.

No doubt we are concerned here with a kind of meaning which works probabilistically, rather than deterministically, that is to say, a symptom (cf. Sonesson 1989a, p. 17 ff.); and given such an expression as this, some contents seem more probable than others. Of course, in the present case, the probability connecting the relation of the sign may in fact be derived from the one observed to prevail between the corresponding objects in lived reality. But there could be something else involved too: a *lifeworld hierarchy of relative importance* (see Sonesson 1989a, p. 201 ff.), like the one which determines that in certain societies, as for instance our own, markings on paper are expected to be signs, and in others they are not. Such a lifeworld hierarchy may itself be conventional, for all we know, or it could be grounded in the common experience of a particular sociocultural lifeworld.

Now as I indicated above, to Schaeffer the photographic sign is an *indexical icon*, and an *iconical index*, particular instances tending more or less in one sense or the other (p. 101 ff.). There are, however, reasons to think that the photograph must really always be essentially an indexical icon, rather than the reverse, for it is really only because we discover a likeness, that is, a kind of picture, that the fact of the likeness having produced as an imprint begins to acquire importance. Actu-

ally, the photograph, like any other object, contains a number of other indices: it is thus an index of the angle from which the photograph was taken, of the lighting conditions at the moment of taking the photograph, of the film type used, and so on (cf. 1.3.3)—but we will naturally attend to these facts only later, after having read it as an index of that which it is a picture of. Indeed, pictoriality is primary in our lifeworld hierarchy. But before we enter more deeply into this argument, we must consider some of the ambiguities of Schaeffer's own position on the issue.

In fact, some parts of Schaeffer's argument would seem to go in my sense. Thus, he rejects some of the more extreme expressions of a pure trace theory, as found in the work of Vanlier and Dubois (p. 27 ff.). He locates the photogram, as well as the X-ray picture somewhere outside the proper domain of photography (p. 59 ff.), first because the photonic flux has to traverse the referent to get to the imprinted matter, while in the photograph the referent originates the flux, and because the flux is not relayed by any optical device, and thus not usable for analogical signification; and second, because what the photogram reflects are difference of volume and density, not such things as are seen by the human eye (p. 62; cf. my critique, in the same sense, of this and other "hard icons" of Maldonado's, in Sonesson 1989a, p. 60 ff.). He even affirms that the requirement of analogy introduces further constraints on the photographic trace, for while movements may give rise to markings on a photographic plate (as used in physical experiments), these are normally excluded from photography, because what is to the human eye a succession of states gets transformed into spatial extension on the plate (p. 18).

But, on the other hand, Schaeffer also seems to mark a certain distance to analogicalness. Thus, he notes that the camera may see things man is unable to perceive (p. 21 ff.; whereas I noted the inverse case above), although he immediately proceeds to argue that analogical objectives have determined an effort to modify the way in which the emulsion renders colours. However, he then goes on to reject the assumption that the photograph could be taken to be analogical to a vision of the object that the photograph is a picture of (p. 23 f.). Behind the latter idea, he discovers the remnants of the romantic conception of originary experience, which always tends to accord a privilege to vision, and he claims it is the confusion between the reproduction of a being and the reproduction of a vision that explains Heidegger's animosity to photography. There are many issues involved here, and some of them are certainly too vast, for us to go into them in the present context.

Schaeffer's rejection of originary experience of vision may be more or less justified, in the general case (although the dominance of vision would seem to be at least an anthropological fact), but it seems widely off the mark when discussing pictures. There are two parts to this argument. Philosophers, it is argued, tend to confuse the rendering of the thing itself, and of the thing as seen by a human eye (or, preferably, two). And they attribute to vision, rather than to the other senses, or even to pictures, the capacity to give us access to the truth of the thing. Against this, Schaeffer thinks that some pieces of knowledge about stars and about radioactivity have to be acquired through photographic pictures of them, which do not correspond to human vision, for human beings are unable to perceive them.

But if now, for a moment, we only attend to the first aspect, we will encounter it again, when Snyder and Allen (1982, p. 67 ff.) observe that the argument for photographic analogicity relies on two models, which are usually taken to be identical: the *visual* model, which postulates a similarity between the camera and the eye as optical systems, and posits that a photograph shows us “what we would have seen if we had been there ourselves”; and the *mechanical* model, according to which “a photograph may not show us a scene as we ourselves would have seen it, but it is a reliable index of what was”.³⁸ Now it is certainly true, as Snyder and Allen (p. 70) goes on to argue, that the visual model will only hold when it is qualified into absurdity:

A photograph shows us “what we would have seen” at a certain moment in time, from a certain vantage point if we kept our head immobile and closed one eye and if we saw with the equivalent of a 1500 mm or 24 mm lens and if we saw things in Agfacolor or in Tri-X developed in D-76 and printed on Kodabromide//3 paper.

This having been said, however, the comparison is not as absurd as that: for indeed, the whole point of photography is to offer us vicarious perceptual experience, that is, the illusion of having seen something without having been present at the scene, as Schaeffer later himself admits, when talking about the quasi-perceptual field of a photograph (p. 116 ff.). There are, of course, photographs, such as those mentioned by Schaeffer (and Maldonado’s “hard icons”), which do not show us anything we could see, but which are truer to the essence of things, as the latter is conceived in natural science. But these are examples very far from the central core of photography, as the latter is colloquially understood.

And it is of course the other photographs that are true to experience, to perceptual experience, to be precise, as the latter takes place in the lifeworld. This truth is no doubt a relative one, as I have noted above (1.4.1–3.; also cf. Snyder and Allen 1982, p. 70), for whatever it is that is rendered, it is only conveyed to us in some of its aspects, parts, and attributes; and it is not directly perceived, only, as Husserl said about pictures generally (cf. Sonesson 1989a, p. 270 ff.), perceptually imagined.

In the end, then, it seems that the photograph can only be a trace once it is seen to be a likeness.

And this brings us to another of Schaeffer’s points. Contrary to Vanlier and Dubois, though he never pinpoints the difference, he insists that in order to see a photograph *as* a photograph, we must know it to have been produced in the manner of a photograph; we must possess, in his terms, knowledge of the *arché* (p. 41 ff.). His reason for introducing this requirement is that there are no morphological criteria permitting us to differentiate a painting from, for example, a photograph having been modified by the techniques of the pictorialists, in particular if the latter is seen in reproduction (p. 45 f.). But there may be even more serious problems than this.

In Schaeffer’s example, we look at something that appears to be a painting, and we wonder if in actual fact it could be a photograph by a pictorialist. But then there

³⁸ There is no reason to believe that Snyder and Allen use the term index here in the technical sense given by Peirce, but it certainly corresponds, in this instance, to the general idea defended by Vanlier, Dubois, and, to a certain extent, Schaeffer.

are cases in which we do not know which parts, if any, of something that looks like a photograph, have really been photographically produced. Thus, by means of gum bichromate details may have been added to the scene directly on the emulsion, whereas other details may have been suppressed with the help of bromoil (the illustration of a classical handbook, quoted by Snyder and Allen 1982, p. 82 f., is accompanied by the text “excess sheep removed”, but without this caption, we could not know that it had been modified). But there is something which is more serious yet, and that is that we do now possess pictures, which do exactly look like photographs, but which have in no parts been photographically produced; these are synthetic, or computer-composed pictures (see examples reproduced in Moles 1971, 1981). In fact, since this was pointed out by Moles, the case has become trivial: we can all produce these pictures at our home computer. Although Schaeffer does mention the existence of such synthetic images in passing (see his note 6, p. 65), he takes no particular notice of their importance for impeding the identification of photographs.

In a sense, all that Schaeffer’s knowledge of the *arché* amounts to is the recognition that the photographic index must be what we have earlier termed an *abductive*, rather than a *performative* index, that is, an index that functions only because we take for granted that certain regularities which are commonly supposed to prevail do indeed do that (cf. 1.3.3).³⁹ But even an abductive index may be more or less so: thus, in a somewhat loose sense, Golgotha may be considered an index for Christ, if we think the latter was once present there, but then the link must be entirely reconstructed from abductions; whereas, in the case of footsteps and photographs, there are, so to speak, some remains on which to lean when making a start at the construction of abductive meanings. To put the point in another way, if Christ’s sweaty face had not left an imprint of St. Veronica’s napkin, it would still have been an index of his face, for those who knew about the event, but much more (and less intersubjective) abductions would be needed to reconstruct the sign.

But when we hesitate to qualify a picture as a photograph, a painting, a synthetic picture, or some combination, the problem is no longer to establish what it is a sign of. We know that the napkin of St. Veronica is a sign depicting the face of a man, and that the man it shows is Christ (according to one or other of the canons for representing Christ with which we are familiar), but, exactly as in the case of a possible photograph, we do not know if this likeness of a face was really imprinted on the napkin by means of a pressure applied to it by the referent itself. But what kind of question is this? Consider, for instance, the elementary situation in which the emission of a sign takes place, as studied by Prieto (1966, p. 15 ff.; cf. Hervey 1982, p. 63 ff.) in the example of a horse’s hoof prints. There is what Prieto would have called the “significative indication”, which tells us that there is a horse around. There is not, in this case, as there would be in a linguistic sign (and presumably in

³⁹ Schaeffer (1987, pp. 87 ff., 105 ff.) takes our background knowledge to be important for our interpretation of photographs also in another way (and more so than in the case of verbal language, which is at least doubtful); it is only because we recognize our grandfather, that we are able to learn from the photograph that he was in the habit of going out fishing. What is involved here, however, is only the necessity of possessing more, and more detailed schemes, in order to be able to interpret pictures, and perceptual reality, at lower intensional levels (cf. Sonesson 1988, 1989b).

a pictorial sign) any “notificative indication”, which would convey to use the idea “attention! This is intended to convey a message”.⁴⁰ But where, then, is there an indication that these signs are really hoof prints, and not just fake impressions?

What this shows is that, from our point of view (but we should not forget that Prieto is really up to very different matters), this analysis is seriously amiss, or at least incomplete. For if the significative indication of the hoof prints is that there is (or was) a horse around, then what is the difference of meaning between real hoof prints and fake ones? Let us suppose there is something in common between the real and false hoof prints, which is a significative indication and which amount to something like “horse here”, and then there is some other part of the meaning, which, for the sake of the argument, we shall baptize with the rather barbarian term “indicative indication”, which is only present in the real hoof prints, and which says as much as “caused by the application of some part of a real horse to the ground”. Thus, although the real hoof prints do not have any notificative indication, they do possess an indicative indication, along with the significative one.

We should really distinguish two cases, however (and maybe more). The hoof prints may be faked, in the sense that someone, who was not a horse, applied horseshoes to the ground, creating markings which falsely tend to suggest that there has been a horse around. In this case, we are quite right in believing in the indicative indication which informs us that the imprints we see were created by the pressure of horseshoes to the ground, and what is mistaken is the assumption that there was also a factorial relationship between the horseshoe and a horse’s foot and leg, and between the latter and the entire horse (we could think of intermediary cases, in which a real horse’s leg, severed from the body, has been used). But the hoof prints may be faked also in the second sense that there never was any horseshoe which was applied to the ground, but the semblance of a hoof print was instead created by a human being, who sketched out the contours of a horse’s foot in the soil using some kind of writing implement or the like. In the latter case, there was not only no horseshoe present at any time but also no ready-made mould at all was pressed to the ground; instead, the shape was created by a procedure which should remind us of that involved in the production of chirographic pictures.

In both these cases, there is both a notificative and an indicative indication, in addition to the significative one (although it is possible, and even probable, that the notificative indication tends to disguise itself into a merely indicative one). But it is only in the latter case that the indicative indication is of the kind that is connected with real hoof prints, that is, a kind of abrasion.

Now suppose that, like Zadig, the Serendippus brothers, or William of Baskerville, we observe on the soil markings that are similar in shape to the imprints left by a horse, a camel, or what have you. Rather than taking account of all these eventualities, and a lot more, we will certainly suppose them to be imprints of the animal in question, until there emerges some particular reason for believing them not to be so.

⁴⁰ Prieto uses the term “indice” here, but this has nothing to do with the Peircean index, although the example would suggest so. Actually, “indice” would seem to be the most general term of functional semiotics, corresponding to what I would call “sign”.

Indeed, the case is parallel to the one described by Searle, where we find something which looks like writing in the desert sand, and where, according to Searle (1969), we must first impute to someone the intention of conveying to us some meaning through writing, before we can interpret the message in the sand, that is, we must ascribe to the writing a notificative intention. As I argued elsewhere (in Sonesson 1979), this notificative intention is normally ascribed to the writing as a matter of course, even if that means taking it to be a message from God or some playful spirits, as long as the markings in the sand look sufficiently similar to what would normally be letters of the alphabet. This is just an example of the way things are taken for granted in the ordinary lifeworld, which is the locus of all our experience.

The case is similar with photography. Just like the hoof print, the photograph carries with it an indicative indication, along with the significative one, but, in addition, it also embodies a notificative intention.⁴¹ But neither of these indications must be intentionally ascribed to the photograph; they are attributed to it as a matter of course, as long as it looks similar to what would normally, and as far as our experience goes, be a photograph. It is not important, therefore, that there are no trustworthy criteria for telling a photograph from another kind of picture, neither as a whole, nor in its particular parts, for we do have a clearly characterized notion of what a photograph looks like, and as long as there is no resistance on the part of the sign, we will attribute photographicalness to it without hesitation.

There are two corollaries to this. Firstly, it is clear that, if in the future synthetic pictures become more common, and are even more indistinguishable from photographs, we shall have to give up this idea of photographicalness. Secondly, this conception will not permit us to give too much importance to the testimonial function of photography. Photographicalness is merely a connotation, that is, the way in which the photographic sign designates itself as such, and the existence postulate (logically developed by Schaeffer 1987, p. 122 ff.) is a contextual implication following from this connotation (cf. Sonesson 1989a, pp. 119 ff. and 179 ff.); and just as it is possible to connote French while speaking English, other pictorial kinds are perfectly capable of connoting photographicalness. Of course, as long as we believe we are in our right to take a picture to be a real photograph, we will also consider it probable that it depicts a real particular. Indeed, the photograph may seem to tell us that “cela a été”, in Barthes’s words, that is, that there was before (and may still be) some particular being, but it cannot tell us exactly how it was (for in the photograph, it is not the same), what further properties it had, how it look from other angles, or some seconds before or afterwards, together with what else it was present, and so on. Thus, that particular that was, and which still is in the photograph, remains as a mere vestige—which may explain why it has to be filled up with sentiments, as Barthes is so good at doing. And it also points to some further indexical properties of photographs, which are very different from abrasion.

⁴¹ Schaeffer (1987, pp. 52 ff., 78 ff.) in fact denies intentionality to photographic signs, but he can only do this because he confuses a number of levels. If we expect the interventions on the plate after the shot has been made, there is of course no possibility of conveying *local* decisions, but there is a host of *global* decisions which must be made before each photograph is taken, even if the camera is then left to record the scene on its own.

This is a convenient point to turn to Schaeffer's considerations on temporality and spatiality, before concluding on the indexicality issue. Time and space are taken into account essentially in two ways: first, in order to justify the introduction of the *arché*, and then as a means of classifying photographic types. We will start from the first aspect.

According to Schaeffer (p. 64 ff.), time is not rendered iconically in the photograph, as it is in the cinema,⁴² but has to be supplied from the knowledge about photography possessed by the receiver; and in the same way, the photograph is spatially anchored, not by perspective alone, but again by our knowledge of the photographic *arché*, which follows from the fact that while a subjective standpoint is immediately ascribed to the photograph, only intricate and laborious devices as those present in *Las Meninas*, or in the *Arnolfinis*, are capable of introducing it into painting. However perspicacious these observations may seem, they are, I believe, somewhat off the mark, because their author fails to distinguish temporality and spatiality as categorical facts from particular occurrences in space and time.

Just as any other action, that which is reproduced in a photograph may be seen as a part of a greater whole, to the extent that it can be integrated into one or other of the schemes taken over from our common lifeworld existence, and from this point of view, the photographic scene does not differ in any way from the painted one, nor from a *tableau vivant*, as practised in the social life of the eighteenth century, nor even from our experience of stepping out in the glade and seeing the Weberian wood-feller at work (cf. Sonesson 1989a, p. 49 ff.). This is exactly Lessing's problem, and it thus antedates photography, as it indeed antedates Lessing himself (cf. Sonesson 1988).⁴³ It is true, of course, that this temporality is not present in the picture itself, but is somehow introduced by the receiver, but there is nothing peculiarly photographic to this abduction. No doubt, the photograph is inapt to present a synthesis of several moments of the act (without using double exposure, or something of the sort),⁴⁴ whereas the chirographic picture may do it, and usually did so, before the invention of photography. But although this difference caused people to be shocked on seeing the first photographs, of horses galloping, to choose a classic example, it is hardly noticed nowadays.

⁴² It is not at all clear that cinematographic time can be described as generally being iconic. Firstly, montage, of the kinds considered by Metz in his macro-syntagmatics, does away with the uninterrupted flow of natural time. Secondly, and more importantly, time is hardly ever the subject of filmic signs, but rather something, which accompanies the action sequence as well as the projection, without being directly signified. On the other hand, some montage types do serve to represent time, but that is exactly where similarity wears off!

⁴³ In this respect, it is interesting to note that Schaeffer, without referring to Lessing or the Laocoon tradition, conceives of the problem in identical psychological terms, but opts for another solution: in his view, it is the picture of the climactic moment which should be chosen, because it points both forwards and backwards with the uttermost tension (p. 143).

⁴⁴ It should be noted, however, that this is only true of photography as it is commonly used, although this is a use which is built into most cameras; it would not apply, for instance, to that picture of the horses arriving at the end of the race, mentioned by Snyder and Allen, and commented upon in note 32 above.

On the other hand, only a photograph gives us at least the illusion that what we see is a phase of an action taking place at some particular moment of clock time.

In a similar way, spatiality is categorically present in the photograph, just as in any picture, and this in several ways. Firstly, we know, from our experience in the perceptual lifeworld, that reality goes on continuously; thus, there must be something beyond the frame of the picture, if it is a photograph or a chirograph. Secondly, we also know, as Gurwitsch puts it (cf. Sonesson 1989a, p. 39 ff.), that every perception of reality is a partial view, susceptible of being complemented in perceptual experience, but, it may be added, petrified for ever in a picture, which is to say that every picture transforms a subjective view on an object into an object of its own. But all this is either taken for granted in every conceivable lifeworld, or in such sociocultural lifeworlds as possess pictures.

Again, it might be noted that, unlike the chirographic picture, the photograph is unable to subsume in one image several points of views, without having to recur to special procedures like double exposure (and this, like the unity of time, depends on the global character of photography, that is, on Vanlier's and Dubois's homogeneity). Furthermore, only the photograph makes us expect there to be a unique place in the world, the coordinates of which may at least potentially be given, from which this view is to be had. When painting a real landscape, even the painter must of course sit somewhere, but he may change his place many times, and he may even adapt what he sees when transposing it to the canvas.⁴⁵

The other way in which time and space enter Schaeffer's discussion is, we said, in his classification of photographic types (p. 72, pp. 128 ff.). Photographs differ, Schaeffer contends, as far as their representamen, object, and interpretant are concerned; for the first may be rather more indexical, or rather more iconical; the second either represents an entity or a state of things; and the third is either predominantly temporal, or more to the spatial side. We shall not go into the details of this classification here; it seems anyhow difficult to reconcile with the little that is certain about the Peircean relata of the sign. Thus, indexicality and iconicity are not, in Peirce's view, properties of the representamen, but of the relation between representamen and object; and the interpretant concerns a relation between three terms, and thus does not seem to be involved with time and space.

In any case, while it may be true that certain photographs are more indexical, or more iconical, than others, it seems certain that the photograph is essentially an indexical icon, and not the reverse, that is, that it is first and foremost iconical, like any picture. To see this, we shall consider another way in which photographs are involved with time and space.

There is a kind of temporality in that very indexical relation which attaches the photograph to its referent, which is also at least one of its causes. As Barthes said, the photograph tells us that "cela a été", and Dubois rightly considered him to be something of an indexicalist on this merit only. The photograph, then, is an index

⁴⁵ Here, as always, there is of course the problem of knowing how far we may go in excluding "tricks", without thereby pleading for some particular conception of what photography should be like.

		Expression	
		(Time and) space dependent	Time and space independent
Content	Time- and space dependent	Foot prints Hoof prints	Photographs
	Time and space independent	?	Verbal signs

Fig. 19.3 Time and space in different sign types compared

of something that *was*, not (other than by accident) of something which *is*. In this respect, I said (in 1.3.3.), the photograph is similar to footsteps and tracks generally, but not to cast shadows and mirror images. Well considered, however, this similarity may not go as far as we had expected. For while both the photograph and the trace stand for a bygone referent, the signifier of the former sign continues to occupy the place that was that of the referent, and it still remains temporally dated, whereas the photographic signifier, like that of the verbal sign, is omnitemporal and omnispacial, while tokens of its type may be instantiated in any time and place (although only *after* the referential event and the time needed for development). Thus, if, for the sake of simplicity, we only attend to the temporal aspects here, the following table can be constructed (Fig. 19.3):⁴⁶

That is to say, in the case of a footprint, a hoof print, or what have you, both the expression and the content are located at a particular time and place; in verbal language, none of them are; and in the case of photography, it is only the content (or, strictly speaking, the referent) which is bound up with spatio-temporality. Thus, the hoof prints, present where before the horse was present, tell us something like “horse here before”; but the photograph of a horse, which most likely is not where the horse ever was, only tells us “horse”, and *then* we may start reconstructing the time and the place.⁴⁷

In fact, we may now take this analysis a little further. Elsewhere, I have argued against Eco that the mirror is really a sign, because it is a member of a common class of signs which only work temporary, such as the weathercock, the pointing finger, the cast shadow, and the personal pronouns as used in oral language: they

⁴⁶ That is to say, verbal signs are omnitemporal when considered as types; however, each time they are instantiated in a concrete situation, they appear as token, or replica, as Peirce would have said, and then they carry additional meanings as tokens. Of course, each hoof print may also be considered as a token, the type of which is the general idea of a horseshoe, or a particular horseshoe (of a particular leg of a particular horse). Nevertheless, the difference remains, for in the case of the trace, the essential information is conveyed by the particular imprinting of the horseshoe, at a particular occasion.

⁴⁷ Therefore, Schaeffer (p. 57 f.) makes too much of the undoubtedly authentically Peircean idea that the photograph, as an index, is a sign of existence, while other pictures, because of being icons, are signs of essence. As I pointed out when criticizing Dubois’s idea of the photograph as being an indicator, the photograph does not in any sense designate the *locus* of its production.

		Expression		
		Space coincidence	Time and space coincidence	Time and space independent
Content	Space coincidence	Foot prints Hoof prints		
	Time- and space coincidence		Mirror, weathercock, gesture of pointing, etc.	Photographs
	Time and space independent	?		Verbal signs

Fig. 19.4. Extended comparison of time and space in different sign types

only mean what they mean when in presence of their referent (cf. Sonesson 2003a, b, 2005). Presence here would seem to mean co-occurrence in both time and space. This is different from the case of hoof prints, which only require coincidence of space, not of time. The figure could therefore be redesigned as in Fig. 19.4.⁴⁸

At this point, it may seem that we could say that, whereas the hoof print is first and foremost an index, the photograph must originally be seen as an icon, before its indexical properties can be discovered. In fact, however, things may be still more complicated. Schaeffer (p. 56) is of course right in pointing out, against Peirce, that not all indices involve some iconic aspect, but it so happens that the hoof prints, just like all other imprints and traces, in the narrow sense of these terms, also convey a partial similarity with the objects for which they stand. We have to recognize the hoof print as such, that is, differentiate it from the traces of a man’s feet, or of a donkey’s, as well as from fake hoof prints (in the sense discussed above), and from accidental formations worked by the wind in the sand. Only then can we interpret the hoof prints indexically. It remains true, however, that the essential meaning of the hoof prints is embodied in indexicality: they tell us the whereabouts of the animal.

In the case of a photograph, on the other hand, we do not need to conceive of it indexically to be able to grasp its meaning. It will continue to convey significations to us, whether we are certain that it is a photograph or not. Indexicality, in photographs, really is a question of second thoughts and peculiar circumstances.

Therefore, we may conclude that indexicality cannot be the primary sign relation of photographs, although it is an open potentiality present in their constitution, and exploited in certain cases. First and foremost, the photograph is an iconical sign.

⁴⁸ What then about the case of temporal coincidence, without a spatial one? An example would no doubt be television as imagined by Eco (2000), that is, as direct transmission. A better example might be surveillance cameras.

19.4 Conclusions

The semiotics of photography is a very young enterprise. It was started by Barthes, who from the onset deprived it of a subject matter by claiming the photographic sign to be tautologous. Though he did not realize it himself, Barthes obliquely pointed to one essential difference between photographs and handmade pictures, the former only allowing for global decisions pertaining to their mapping rules, and the latter transforming any single spot of their surface into a point of decision. He was followed by a lot of epigones who simply applied his confused terminology to other pictures. Lindekens was another type of pioneer: in positing the conventionality of the photographic sign, he was certainly wrong, but he helped initiate a more serious inquiry into the nature of the constructional kind known as photography. The most important contributions to the semiotics of photography were made by the indexicalists Vanlier, Dubois, and Schaeffer. Yet, when closely considered, their theories leave much to be desired, although they tell us a lot about the specificity of photography: there can be no doubt that, like all pictures, photographs are basically iconic, and only manifest their indexicality mediated by their iconicity. Photographs cannot simply be identified with other traces such as footprints. The latter only mean what they mean as long as they stay at the place where they were first produced, but photographs can (and normally are) displaced from their place of origin. Being fundamentally iconic, photographs are still different from chirographic pictures in being derived from perceptual reality by means of a series of global, as opposed to local, mapping rules.

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Göran Sonesson, born 1951, is a semiotician specializing in pictorial, cultural, and cognitive semiotics. In recent years, he has also been concerned with the epistemology of semiotics, mainly on a phenomenological basis, as well as with an evolutionary foundation for semiosis. His main book-length work is *Pictorial semiotics* (LUP 1989), which, among other things, is the most explicit argument published so far against the structuralist critique of iconicity, and in a defence of a phenomenological–ecological view of perception and the world taken for granted. Sonesson has published numerous articles in many anthologies, as well as in journals such as *Semiotica*, *VISIO*, *Sign System Studies*, *Degrés*, *RSSI*, *Signa*, *Signata*, and *Cognitive Development*. He was one of the founders of the International Association for Visual Semiotics (AISV/IAVS), and has also been active in the boards of International Association for Semiotic Studies (AIS/IASS), the Nordic Association for Semiotic Studies (NASS), and the International Association of Cognitive Semiotics (IACS).

Chapter 20

The Semiotics of the Mass Media

Marcel Danesi

20.1 Introduction

The objective of semiotics is to study the production and comprehension of signs and sign systems as they manifest themselves across cultures, contexts, media, channels of communication, and even species (Posner et al. 1997–2004). Of particular interest to the present topic is the study of how signs and their utilization in textual forms by the mass media shape social processes or perhaps mirror them. This branch has come to be known broadly as *media semiotics*, aiming to explore at a deeper level the implicit or unconscious, signifying structures and practices present in mass media content. As an analytical and conceptual framework, it has proven itself to be particularly well suited to deciphering media effects on cultural trends and on how meaning systems inherent in human codes are transformed for various purposes by the media.

The fundamental approach in media semiotics is to investigate how cultural meanings encoded by media texts (programs, spectacles, and so on) are adopted, adapted for specific purposes, and then redistributed throughout the culture. An implicit “semiotic law of media” is, in fact, that as the media change, so too do the patterns of semiosis—the making and utilization of signs and sign forms (texts, codes, etc.). Although the scientific analysis of the mass media and their effects on people and culture go back at least to the late 1930s in disciplines such as psychology and sociology, a full-fledged media semiotics did not surface until the late 1950s. It has now become a major enterprise within semiotics itself and also in other fields as a conceptual and notional tool of analysis (Jensen 1995; Bignell 1997; Nöth 1997; Berger 2000; Danesi 2002, 2012). Like the other branches of the discipline, media semiotics interweaves insights and findings from cognate fields in order to unravel the modalities implicit in “mediated signification,” as media-based and media-delivered meanings are commonly called.

M. Danesi (✉)
University of Toronto, Toronto, Canada
e-mail: marcel.danesi@utoronto.ca

20.2 The Origins of Scientific Media Study

The scientific study of the media predates the advent of media semiotics. Before the appearance of such study, various social critics in the industrialist era were already assailing the advent of mass print media (newspapers, tabloids, dime novels, and the like) as breeding a vulgar form of mass culture. The nineteenth-century British social critic Matthew Arnold (1869), for example, saw mass culture as producing a tasteless and homogenized form of language and art generally. Arnold warned his contemporaries that this trend was a threat to civilized society. His attack was taken up by another British intellectual, Frank R. Leavis (1952), who saw the spread of an ever-expanding popular culture through mass communications technologies such as radio as evidence of the decline of civilization. Although these opinions are now viewed as manifestly elitist critiques, with no empirical evidence to back them up, they are still considered to be valuable contributions to the debate today of the effects of new media on individuals, culture, and social systems.

The philosophers of the Frankfurt Institute for Social Research, founded in 1922, also assailed the mass-mediated culture of modern capitalist societies from a specific philosophical angle—Marxism. Scholars like Theodor W. Adorno (1941), Max Horkheimer (1947), and Leo Lowenthal (1949) characterized such societies as producing cultural “products”—works of literature, music, and so on—as if they were “commodities” to be sold and quickly discarded in the marketplace just like manufactured commodities. At about the same time, American journalist Walter Lippmann (1922) presented a similar view of mass culture in his controversial book, *Public Opinion*. Lippmann claimed that the mass media had a powerful effect on the minds of people. That claim is the earliest version of what soon after came to be called hypodermic needle theory (HNT)—a view which asserts that the mass media can directly influence behavior in the same way that a hypodermic needle can directly affect the body. The American scholar Harold Lasswell took up Lippmann’s basic view in *Propaganda Technique in World War I* (1927), arguing that mass-mediated content influenced people’s outlooks and behaviors (see McCombs 1994; Lowery and DeFleur 1995; McQuail 2000).

The scientific study of media effects, however, did not crystallize until a truly remarkable and now well-known event took place in 1938—a radio broadcast of the *War of the Worlds*, which was a radio adaptation of H. G. Wells’ novel about the invasion of Earth by aliens by the actor Orson Welles, imitating the style of news bulletins interrupting a musical program. The idea was to recreate the novel in modern terms using the radio as a metaphor for how people came to grips with reality. But many listeners mistook the bulletins as describing an actual occurrence—the invasion of earth by aliens—despite regular announcements that it was fiction. Some left their homes in panic; others contacted the local authorities. The event led to the first psychological study of the media, called the *Cantril Study*, after Princeton University professor Hadley Cantril (1940) and a team of researchers interviewed 135 subjects directly affected by the event. Titled *The Invasion from Mars: A Study in the Psychology of Panic*, the study appeared to lend empirical support

to the belief that mass media influenced people negatively—a view that up till then was only speculation—because it obliterated the dividing line between fiction and reality. The panic caused by the broadcast was real, even though many subjects did not admit to believing it, lying in order to hide their shame.

The study was quickly criticized as being flawed, since it did not establish a statistical correlation between the radio broadcast and the degree of reported panic. Moreover, the panic may have been caused by subsequent media reports exaggerating the story. In actual fact, no deaths or injuries were ever connected to the radio broadcast; and the streets were never crowded with hysterical citizens as the media claimed. The reported panic was itself a media fiction. Regardless of such criticism and flaws, the study established a scientific basis to the study of the media, since it aimed to determine if a specific media event did indeed affect people, opening the door to a series of follow-up studies. Data and theories of the media started piling up. In contrast to the Cantril Study, some claimed that people got out of media content what they were already inclined to get. For example, in an influential 1948 study, *The People's Choice*, the American sociologist Paul Lazarsfeld and a team of researchers (Lazarsfeld et al. 1948) found that the media had very little (if any) ability to change people's minds about how they would vote in an election. The research concluded that people simply took out of media content only the views that fitted their preconceptions, paying little or no attention to the others.

Follow-up research has largely corroborated Lazarsfeld's findings, demonstrating, cumulatively, that the reception and use of media content is context-bound and often mediated by the communities in which people lived or to which they aligned themselves. Katz and Lazarsfeld (1955) showed that people's interpretations of media content were consistent with the values of the social class or group to which they belonged or which they sympathized with. In effect, audiences react to media content as members of interpretive communities—families, unions, neighborhoods, churches, peer groups, and so on. In such communities, there are “opinion leaders” (for example, union leaders, church ministers, and the like) who influence how the other members will interpret a media event. So, in contrast to HNT, which portrays media impact as a one-step flow reaching a homogeneous and passive audience directly, the work by Lazarsfeld and his coresearchers saw it as a two-step flow, in which the first step was through the opinion leader(s) who interpret media content, and then pass it on to group members thus shaping their opinions (the second step). Lazarsfeld also argued that the media actually have a conservative social “function,” rather than a purported disruptive one (Katz and Lazarsfeld 1955). For example, the representation of violence and deviancy on TV crime programs will hardly lead to more violence or violent crime in society, because such representations have a moral subtext built into them, warning people about the dangers of violence and crime. This is known as *Cultivation Theory*; it claims that the media “cultivate,” not threaten, the status quo. The overrepresentation of violence in the media, therefore, actually reinforces a respect for law and order.

In a series of follow-up studies, Elihu Katz (1959) argued that audiences are not passive consumers of media representations. On the contrary, they use the media for their own purposes and gratifications. Known as *Uses and Gratifications*

Theory, Katz suggested that individuals use the media for their own purposes thus blocking any HNT effect that they might produce (see also Klapper 1960). But others have argued that the media do produce effects in an unconscious way. In a 1970 study, Gerbner looked at the beliefs of habitual television viewers and those of nonviewers, finding that awareness of violence was higher in the former than it was in the latter (Gerbner and Gross 1976). But awareness of violence does not lead to violent action. People watching television violence simply seem to believe that there is more violence in society than there actually is. In 1984, Elisabeth Noelle-Neumann demonstrated with her work that there are, however, long-term effects from exposure to the media, because the media tend to generate consent or consensus, and those who do not subscribe to it might feel marginalized. Known as *Spiral of Silence Theory*, she claimed that those who perceive their opinion as being a minority one, for example, tend to remain silent fearing ridicule or marginalization (see also Scheufele and Moy 2000). Thus, the media reinforce the majority opinion by “silencing” dissenting voices.

British cultural theorist Stuart Hall (1977) also suggested that people do not absorb media representations passively, but rather *read* them in one of three ways. The *preferred* reading is the one that the media makers hope people will take from their representations. However, Hall asserts, this does not always happen. Indeed, the most common form of reading is the *negotiated* one, whereby audiences are affected only by some parts of media content, disputing or rejecting others. And some people even tend to give an *oppositional* reading to media content—a reading that is in contrast to what the makers of the media product had intended. Hall’s contemporary, the British social critic Raymond Williams (1950), argued that mediated spectacles, performances, texts, and forms (such as media slang) are self-perpetuating because of their ability to adapt to social change. Williams called the mainstream form of media culture in place at any given time as being based on a *dominant* interpretive code. He saw in this code *residual* tendencies from previous codes, including nondominant ones, and *emergent* tendencies, which point to the future. It is in tapping into the latter that media industries beget their power to change and thus perpetuate themselves.

Williams also subscribed to the view that media texts are controlled by those in power in order to ensure consent by the masses. Known as *Hegemony Theory*—a concept going back to Italian Marxist Antonio Gramsci (1937)—supporters of this perspective see genuine culture under modern capitalism as improbable, condemning media representations generally as forms of propaganda designed to indoctrinate the masses and disguise social inequalities, with the bottom line being the profit motive. A version of hegemony theory is the one associated with the writings of the American linguist Noam Chomsky, sometimes called *Gatekeeping Theory* or *Agenda-Setting Theory*. For example, Chomsky and Herman (1988) claimed that those who control the funding and ownership of the media, including the government in power, pressurize the media to select and present news coverage in ways that are favorable to them. They characterize the mass media as nothing more than a propaganda arm of the government and of capitalist interests, which are complicit in the “manufacturing of consent.” The selection of the topics to be printed

or broadcast, the establishment of the character of the concerns to be expressed, the shaping of the ways in which issues are to be framed, and the filtering out of any information assessed to be contradictory are the means used to manufacture consent. Examples used to support this view include American TV coverage of recent wars, from the Vietnam War to the War on Terror (in Afghanistan and Iraq). The end result is a media propaganda system that espouses an elemental form of patriotism and the benevolence of power brokers and the institutions that they head.

During the 1950s and 1960s, communication theorists also took interest in the mass media. Prominent among them was the Canadian Marshall McLuhan (1951, 1962). McLuhan never really coined a term for his theory. However, the term *Convergence Theory*, as used today to refer to the integration of technologies with cultural forms and evolutionary tendencies (Negroponte 1995), would seem to be an appropriate one to characterize his overall approach retrospectively. Of special significance for semiotics is McLuhan's notion that the media influence text construction and interpretation. He called this *mediation*, adopting and adapting a term used originally by the Frankfurt School intellectuals. Mediation is the likely reason why the media have largely replaced the traditional spheres (family, religion, and so on) in shaping signification. McLuhan claimed that mediation influences how people understand the world and how they evolve psychologically and culturally. The reason for this is that media are extensions of human beings—they extend sensory, physical, and intellectual capacities—and thus we experience them as “natural.” The claim that media are extensions of human faculties is a concept that parallels Charles Peirce's (1931–1958) contention that signs are extensions of sensory and intellectual processes. In effect, signs are tools—forms or artifacts (real or imaginary)—that extend some sensory, physical, or intellectual capacity.

In the 1970s and 1980s, feminist critics attacked the mainstream media as catering to patriarchal patterns of culture and thus misrepresenting women. They argued that representations of women in the movies, on television, and in print were often degrading, and, more ominously, a source of influence in promoting violence against women. Although no empirical evidence was ever produced to back up the latter claim, it was clear that some of the critiques were well founded, given the images of women in the media as either sexual creatures or subservient homemakers. However, already in the 1950s, alongside such patriarchal views of women, there were sitcoms, such as *The Honeymooners*, which portrayed women as independent thinkers who were critical of the male-dominated ambiance in which they lived. By the 1990s, the feminist approach changed radically, as it became obvious that, perhaps, the media ironically and paradoxically enhanced the liberation of women. The new feminism came to be called the postfeminist movement. The claim was made (and continues to be made) that the display of female sexuality in media should not be viewed as exploitation, but rather as a transgressive form of representation against previous and largely religious restrictions on the public display of women's bodies.

Today, the debate over the validity of any one theory of the media has become largely politicized. Some see the current digital media as sources of negativity on the social order; others see them instead as mirrors of what is already present in society or as liberating channels of communication. The study of media now focuses on

the effects of digital media on people. This is an ever-burgeoning topic that cannot be broached here. Suffice it to say that results from studies of digital media effects seem to parallel those of the effects produced by traditional media.

In actual fact, the idea of representations affecting people is much older than the current-day debate. The philosopher Aristotle saw representation (such as a theatrical play) as the primary means through which human beings came to grasp reality. He warned that representations create illusory mind worlds and, thus, can easily lead people astray. Plato was even more adamant about the effects of representations, claiming that they led people away from contemplating life as it really is. Representations thus had to be monitored because they could foster antisocial behavior or encourage the imitation of evil things. Plato's argument has not disappeared from the modern world. It is the reason why we accept such restrictions on our freedom as movie ratings. These are modern-day "Platonic attempts" to protect people from themselves.

20.3 The Advent of Media Semiotics

As mentioned, the study of the media from the standpoint of semiotics surfaced in the late 1950s, when Roland Barthes applied semiotic notions and methodological principles to the study of mass-mediated popular culture in his 1957 book, *Mythologies*. Philosophically, Barthes saw contemporary capitalist culture as a commodity culture, like the Frankfurt scholars, and thus as one beset by the interminable repetition of textual and performative styles and forms, most of which were recyclings of previous material (see also Lavers 1982; Culler 1983; Moriarty 1991; Cobley 2006). The marketplace is what generates a constant need in people for "new books, new programs, new films, news items, but always the same meaning" (Barthes 1975, p. 24). But the psychological reason why people literally "buy" the commodities is because they reflect a second-order or connotative level of meaning, connecting modern humans to historically based meanings, and thus validating them at an unconscious level. A photograph in a newspaper, for example, does not simply portray a fact visually. It takes on historically relevant social connotations through the way it is shown, where it is placed in the layout, and how captions annotate it. The photograph of a cat, when viewed without a caption, lends itself to many possibilities of interpretation. However, if the caption *Looking for a Companion* were enjoined to it, then the photo might be perceived as an appeal for pet adoption or some other meaning involving a second-order interpretation of the cat. The thing to note is that this connotation is linked to the meaning of cats in the culture, thus creating a signifying link to other domains of the culture. Barthes also showed how media texts are assembled through a form of pastiche. A newspaper, for instance, is put together as an amalgam of information, advertising, current interest stories, cartoons, puzzles, and so on and so forth. One does not read such a text logically or linearly, but associatively and connectively by assembling its individual parts individualistically and selectively (Danesi 2002).

Barthes also argued that mass-mediated texts and spectacles are nothing more than recycled ones that were based on culture-specific mythic themes. To distinguish between the original myths and their contemporary media versions, Barthes designated the latter *mythologies*. In superhero comics and movies, for example, the heroes and villains are reconstructions of ancient mythic heroes and their opponents, each possessing the same personality characteristics. Superman has the same kinds of powers that an Atlas or a Hercules had; he also has a tragic flaw, like Achilles; and so on. Because of the unconscious power of myth, fictional media heroes become cultural icons—symbolizing virtue, heroism, and righteousness—above and beyond the comic and movie scripts in which they appear. They are recycled mythic personae. So, Barthes claimed, the *code* is the same—the hero code in this case—but its textualization and representation is adapted and updated to fit the present day.

By the early 2000s, media semiotics had carved a substantial niche for itself throughout the academic terrain. As a major framework within general media studies itself, its concepts are now used to study television, radio, the Internet, video games, social media (such as Facebook), text messaging, and so on. Two factors influencing the media semiotics and media studies generally is the role of technology and globalization in signification processes. In his online article “Media Studies 2.0,” David Gauntlett (2007) argues for a new approach to the study of media—an approach that would no longer focus on the traditional division between audiences and producers, but on the effects of the new technologies on the collapse of such traditional dichotomies. There is, no doubt, a close relation between technology, social evolution, and the media. But the traditional dichotomies may not have disappeared as Gauntlett and others argue. Internet audiences exist as communities in the same way that audiences existed for everything from vaudeville spectacles to television sitcoms. The problem is determining how they are constituted in what McLuhan called the virtual global village.

Actually, long before the Internet age, the intrinsic interconnection between mass communications technologies, signification, and cultural evolution became, already in the early period, a fertile area of study, as a consequence of both Barthes’s and McLuhan’s crucial insights. The American communication theorist Wilbur Schramm (1982) eventually provided a common terminology for studying this connection, elaborating on previous work by the telecommunications engineer Claude Shannon (1948)—a terminology that continues to be used today. The notions of encoder and decoder are central to Schramm’s overall conception—the *encoder* is the component (human or electronic) converting a message into a form that can be transmitted through an appropriate channel; the *decoder* reverses the encoding process so that the message can be received and understood successfully. Schramm’s model came to be called, logically, the *Sender–Message–Channel–Receiver* model, or SMCR for short. The critical part of this model in the Internet age is that often the two are one and the same as people go online to post their own productions. The problem is in determining which audiences are available for such productions. The problem still remains an open one.

An elaboration of the SMCR model that was based on the notion of code, was the one put forward by George Gerbner (1956), amalgamating general media studies with basic semiotic concepts. The relations between the sexes in, say, a television sitcom, or the features that make a hero, superhuman, in adventure movies are based on codes that have a sociohistorical origin. Codes are sign systems—collections of signs that cohere with each other in historically determined ways. There are three general features that define codes and their relation to the media (Danesi 2007). The first one can be called *representationality*. This implies simply that codes are used to stand for—*represent*—something innovative or habitual. The representation, moreover, will vary according to the medium. The news on television will be represented in a more visual and condensed fashion (given the visual nature of the television medium) than it will in print, which is less condensed, allowing for more reflection on content. The second feature is *interpretability*. This implies that messages can be understood successfully only by anyone who is familiar with the codes used to construct them (or which underlie them). The third is *contextualization*. This implies that message interpretation is affected by the context in which it occurs.

20.4 Structuralism

Structuralism is the general term used in various disciplines, including media studies, to designate a specific approach based on several fundamental ideas, especially the one that human-produced forms (including media ones) exhibit structure. In music, for example, the arrangement of tones into structures, known as melodies, is felt to be “musically correct” only if this arrangement is consistent with harmonic structure, as we have come to experience it and thus understand it. Overall, in order to recognize something as a melody, one must be: (1) able to differentiate it from other melodies and (2) know how its component parts fit together. More technically, the former is called *paradigmatic* (differential) and the latter *syntagmatic* (combinatory) structure.

One of the main methods of structuralism is that of *opposition*. What keeps two words, such as *cat* and *rat*, distinct and, thus, meaning-bearing? It is, in part, the fact that the phonic difference between the initial *c* and *r* is perceived as distinctive. This constitutes a paradigmatic feature of the two words. Similarly, a major and minor chord in the same key will be perceived as significantly distinct on account of a half-tone difference in the middle note of the chords. These examples support the structuralist claim that forms are recognized as meaning-bearing structures in part through a perceivable difference built into some aspect of their physical constitution—a minimal difference in sound, a minimal difference in tone, etc. The psychological importance of this feature was noticed by the early-nineteenth-century psychologists, who termed it *opposition*. In his *Cours de linguistique générale*, the linguist Ferdinand de Saussure (1916) saw opposition, which he called *différence*, as an intrinsic property of language. The linguist determines the meaning and grammatical function of a word such as *cat* by opposing it to another word such as

rat. This will show not only that the initial consonants *c* and *r* are paradigmatically significant in English but also what makes the word *cat* unique, pinpointing what *cat* means by virtue of how it is different from other words such as *rat*, *hat*, and so on.

A paradigmatic structure tells only part of the story of how we recognize meaning-bearing forms. The other part is syntagmatic structure. Consider the words *cat* and *rat* once again. These are perceived as being structurally appropriate English words, not only because they are recognizable as distinct through a simple binary opposition of initial sound cues but also because the combination of sounds with which they are constructed is consistent with English word structure. On the other hand, *rtat* would not be recognizable as a legitimate word because it violates a specific aspect of such structure—namely, English words cannot start with the cluster *rt*. This is an example of syntagmatic structure. In music, a melody is recognizable as appropriate only if the notes follow each other according to the rules of harmony.

As a technique, opposition was elaborated by a number of linguists who met regularly in Prague in the early 1920s. As Charles K. Ogden (1932, p. 18) claimed, “the theory of opposition offers a new method of approach not only in the case of all those words which can best be defined in terms of their opposites, or of the oppositional scale on which they appear, but also to *any* word.” In the 1930s and 1940s, structuralists started noticing that opposition was not confined to language. Also, as work with binary oppositions showed in the 1950s, there are also gradations within the binary oppositions themselves, which are due to culture-specific connotative processes. So, for example, between *night* and *day* there is *dawn*, *noon*, *twilight*, and other gradations. Thus, *night* and *day* would seem to be limiting poles in a continuum of meaning between these two that can be segmented in any way a language (and culture) desires or needs. Anthropologist Claude Lévi-Strauss also entered the debate on opposition theory in the 1950s by showing that pairs of oppositions often cohere into sets forming recognizable units. In analyzing kinship systems, Lévi-Strauss (1958) found that the elementary unit of kinship was made up of a set of four oppositions: *brother* versus *sister*; *husband* versus *wife*; *father* versus *son*, and *mother’s brother* versus *sister’s son*. Lévi-Strauss suspected that similar sets characterized units in other cultural systems and, thus, that their study would provide fundamental insights into the overall nature of human social organization.

20.5 Post-Structuralist Approaches

A major problem with structuralism was the question of the function of the two poles in a conceptual binary opposition, such as *night* versus *day*. Which of the two is the default or basic one and which is derived? To answer this question, the early structuralists introduced the notion of *markedness* (Andrews 1990; Battistella 1990). Is *night* absence of *day* or vice versa is *day* absence of *night*? We seem to perceive *day* as more basic. This is called the unmarked pole, whereas *night* is the marked pole, standing out as absence of *day*.

Markedness theory raises some fundamental questions about the relation of oppositions, such as the *masculine* versus *feminine* one, and society. In some languages, the masculine as the unmarked form in grammar generally indicates that the society that uses the language is historically male-centered. As King (1991, p. 2) aptly puts it, in societies where the masculine is the unmarked form in grammar, “men have traditionally been the political leaders, the most acclaimed writers, the grammarians, and the dictionary makers, and it is their world view that is encoded in language.” On the other hand, in societies (or communities) where the feminine is the unmarked form, the women are typically the ones in charge. Research has tended to bear this out, suggesting that sign structure mirrors social structure.

In media semiotics, the notion of markedness provides a useful framework for explaining the content and evolution of various texts. For example, in the early 1950s, TV sitcoms the *fatherhood* versus *motherhood* opposition reflected the existing social view of fatherhood as unmarked and, thus, the father as the head of the family. This was evident even in the titles of the American sitcoms (for example, *Father Knows Best*). Motherhood was portrayed as complementary or supplementary to fatherhood in the overall representation of the family. There were some exceptions to this, of course, but by and large fatherhood was depicted as the unmarked pole in the opposition. As society changed in the 1970s and 1980s, so too did the markedness structure of the opposition. It came to be deconstructed, with sitcoms such as *All in the Family*, *Married with Children*, and *The Simpsons*. To this day, the notion of markedness is used in media semiotics mainly because it has proven itself to be very useful.

But despite its obvious utility, opposition and markedness theory raised issues early on, leading to the movement known as *post-structuralism* as early as the 1960s—a movement associated at first with the late French philosophers Michel Foucault (1972) and Jacques Derrida (1976, 1978). Derrida brusquely contested the classic notions of Saussurean structuralism, which he saw as logocentric. The central notion that set off this movement was that oppositions do not encode reality, but rather construct it. According to Derrida, all sign systems are self-referential—signs refer to other signs, which refer to still other signs, and so on ad infinitum. Thus, what appears stable and natural turns out to be illogical and purely arbitrary. In contrast to Saussure’s idea of *différence*, Derrida (1978) coined the word *différance* (spelled with an “a,” but pronounced in the same way), to intentionally satirize Saussurean theory. With this term, Derrida wanted to show that Saussure’s so-called discoveries could be deconstructed into the implicit biases that he brought to the analytical task at hand, because a science of language can never succeed since it must be carried out through language itself, and thus will partake of the slippage (as he called it) it discovers. As Nesselroth (2007, p. 442) has remarked, Derrida’s approach was one that “constantly decenters fixed meanings and puts into question the ontological status of language (both written and spoken) and of communication in general.” However, the Prague school linguist Roman Jakobson (1942) argued early on that the notion of opposition could, actually, be used to explain the psychology of language ontogenesis, arguing that it was hardly just a construct. He showed that sound oppositions that occur frequently are among the first ones learned by

children. Nasal consonants—/n/ and /m/—exist in all languages; significantly, they are also among the earliest sounds acquired by children. On the other hand, consonants pronounced near the back of the throat are relatively rare and, seemingly, are among the last sounds to be acquired by children. In other words, the theory of opposition predicts the sequence of sound acquisition in children.

Another critique of opposition theory is that it ignores associative meaning and structure. The study of such structure came, actually, to the forefront starting in the late 1970s within linguistics itself (Pollio et al. 1977; Lakoff and Johnson 1980, 1999; Fauconnier and Turner 2002). The American linguist George Lakoff and philosopher Mark Johnson are primarily responsible for this paradigm shift, claiming in 1980 that a simple linguistic metaphor, such as “My brother is a tiger,” cannot be viewed as a simple idiomatic replacement for some literal form, but, rather, that it revealed a conceptual systematicity. It is, more specifically, a token of an associative structure that they called a *conceptual metaphor*. This is why we can also say that *Sam* or *Sarah* or whoever we want is an animal—a *gorilla*, *snake*, *pig*, *puppy*, and so on—in attempting to portray his or her personality. Each specific linguistic metaphor (“Sam is a gorilla,” “Sarah is a puppy,” etc.) is an instantiation of an abstract metaphorical formula—*people are animals*. Now, does the existence of such formulas in the brain lead to an invalidation of opposition theory? Conceptual metaphors are formed through *image schemata*, as Lakoff and Johnson have cogently argued (Lakoff 1987; Johnson 1987). The image schematic source for the *people are animals* conceptual metaphor seems to be an unconscious perception that human personalities and animal behaviors are linked in some way. In other words, it is the output of an ontological opposition: *humans as animals*. It constitutes an example of how opposition manifests itself as an associative phenomenon, not just a polar one. In this case, the two parts of the opposition are not contrasted (as in *night* vs. *day*), but equated: *humans as animals*. This suggests that oppositional structure operates in a non-contrastive way at the level of figurative meaning.

Seen from the vantage point of contemporary semiotics, post-structuralism’s main ideas were already implicit in the many ideas of Peircean semiotics and in the fledgling views of early conceptual metaphor theory. The fact that logocentrism characterizes semiotic practices themselves, is part of the infinite semiosis principle in Peirce. For Derrida, because written language is the fundamental condition of knowledge-producing enterprises, these end up reflecting nothing more than the writing practices used to articulate them. But this whole line of deconstructing discourses does not take into account the functions of language as a metasystem of understanding. Already in the 1930s, the German psychologist Karl Bühler (1934, 1951) posited that language served understanding through three main functions—the cognitive, the expressive, and the conative (or instrumental). The cognitive function allows speakers to employ language for the transmission of factual information, the expressive to convey mood or attitude, and the conative to influence the persons being addressed or to bring about some practical effect. These are subsidiary to human intentionality, not its congeners. The debate is, of course, still open; but the post-structuralist perspective has not, as yet, provided an alternative to the study of semiosis.

Post-structuralism has, nevertheless, had several interesting applications to the study of the media. One of these is its claim that all texts have rhetorical structure. Roland Barthes had already described media texts as fundamentally rhetorical, consisting of two levels: the *linguistic* and the *mythical*. The linguistic level conveys a denotative or referential meaning; the mythical is ensconced in unconscious connotative (rhetorical) meanings. The meaning of a media text, thus, oscillates back and forth between the linguistic (denotative) and rhetorical (mythic) levels. The name *Sonata* refers to a specific car model, denoting, at the linguistic level, a specific automobile. But, at a rhetorical level, the same sign connotes classic aesthetic qualities associated with classical music. All media texts are read in this way, as Barthes claimed.

The above discussion is not meant to imply that structuralist techniques are no longer used in media semiotics. The technique of opposition, as mentioned, continues to have widespread utilization. Like archetype theory in Jungian psychology, which started rather simply as a way of understanding the recurrence of symbols and rituals in cultures across the world, opposition theory is still useful in showing how certain notions relate to each other throughout the human intellectual landscape. And, of course, the concept of mythic code is still a primary one. Consider the case of the *Star Wars* set of six movies (1977–2005), which recycle many elements of the Greek myth. The set is divided into individual episodes, released in a sequence that starts in medias res with the fourth episode being the first one put out. Homer's *Iliad* is structured in this manner. The unifying theme of all the episodes is the universal struggle between good (the rebel alliance) and evil (the tyrannical empire)—one of Lévi-Strauss's basic mythic oppositions. The saga reverberates, in fact, with other ancient mythic oppositions and themes (Danesi 2007).

Actually, media semiotics and media studies generally have discovered, in a roundabout way, Charles Peirce's notion of the *interpretant*, which is essentially a process of infinite semiosis—that is, the process of deciphering what something “stands for.” The Peircean approach to semiosis has become a dominant one in current media semiotics, defining its current *Zeitgeist*. It has been particularly useful in explaining the ways in which certain texts are designed to produce semiosis. A common technique in Peircean-based media semiotics is to identify how iconicity shapes the form and content of texts—iconicity (signs that resemble their referents) being the primary force in semiosis. Iconic brand names and logos, for example, dominate the marketing scene—*Splash* (detergent) evokes what is done with the product through sound imitation (“splashing”); the *Polo* logo, which represents the sport of polo visually with a horse and a rider dressed in polo garb; etc.

20.6 Simulacra

The term *simulacrum* is associated with the ideas of the late Jean Baudrillard (1973, 1975, 1981, 1983, 1987) who used it to claim that contemporary people have been exposed so thoroughly to the media that they can no longer distinguish, or want to

distinguish, between reality and fantasy. In his view, the mind-world produced by the media is perceived as *hyperreal*—that is, as more real than real. Simulacrum theory is used often in media semiotics today.

Baudrillard insisted that a simulacrum effect is not the result of a simple copying or imitation, but a form of consciousness that emerges on its own after a long exposure to the media. Gilles Deleuze (1968, p. 69), on the other hand, saw the emergence of simulacra effects in our mediated world as emerging on their own, without reference to the media. An example that Baudrillard often used was that of Disney's Fantasyland and Magic Kingdom, which are copies of other fictional worlds. They are copies of copies, and people appear to experience them as more real than real. They are "simulation machines" which reproduce past images to create a new cognitive and social environment for them. One thus constructs his or her identity in this simulated world, perceiving himself or herself on its own terms and relating to others accordingly. Eventually, as people engage constantly with the hyperreal, everything—from politics to art—becomes governed by simulation. Only in such a world is it possible for advertising—the maximum manufacturer of simulacra—to become so powerful.

The simulacrum effect would explain the rise in popularity of the so-called reality TV programs (Bignell 2005; Hill 2005; Huff 2006; Essany 2008). Sometimes labeled "popular factual television," this genre produces the simulacrum effect because it blends information, entertainment, documentary, and drama into one hyperreal form of representation. Reality television goes back to 1948, when Allen Funt's *Candid Camera* first aired, a program that was itself based on a previous radio show. The program showed everyday people in contrived situations, tricking them into doing or saying things unknowingly. The idea was to show how funny people could be in the world of the simulacrum. A radio series called *Nightwatch* in the early 1950s, that followed Californian police officers in Culver City, was also very popular. In 1973, a 12-part series called *An American Family* was aired. The series put the Loud family's private lives on display. The program drew more than ten million viewers and became a pop culture landmark. In 1992, MTV's *The Real World* debuted. It took place in a house, where seven strangers from different backgrounds were supposed to live together for several months. Their daily lives were captured on film. The program thus demonstrated what happened when the characters on screen were not acting, but being themselves. The term reality TV came into use in 2002, when CBS's *Survivor* was aired, becoming an instant hit, with contestants projected into an isolated setting facing challenges in order to win prizes. Since then, the number of reality TV shows and websites has proliferated, from real-life cop investigations (as in *The First 48*) to job interview sessions conducted by Donald Trump.

The popularity of the genre, which blurs the distinction between the real and the imaginary, seems to validate the notion of simulacrum theory. Having become accustomed to looking at all kinds of screens, from television to computer screens, it is really a small cognitive step into the world beyond the looking glass (to use a Carrollian metaphor) and to believe that it is as real as the world outside the screen. The 1999 movie, *The Matrix* understood this perfectly, portraying a world in which

life is shaped by the screen. Like the main protagonist, Neo, we now experience reality “on” and “through” the computer screen, and our consciousness is largely shaped by that screen, whose technical name is the *matrix*, as the network of circuits that defines computer technology is called. The same word also meant “womb,” in Latin. The movie’s transparent subtext is that people are now born through two kinds of wombs—the biological and the technological one. It is instructive to note that the producers had approached Baudrillard to be a consultant for the movie. Apparently, he turned them down.

20.7 Overall Perspective

Overall, media semiotics is all about the meaning structures inherent in media and how they evolve over time through technological and social changes. It fleshes out meanings from media texts through a series of notions discussed here, such as opposition theory, code, text, iconicity, interpretant, deconstruction, and a few others. It has provided a lexicon and manual of notions that allow analysts from various disciplines to extract from media analysis relevant findings and theories of their own. On the one hand, the semiotic study of media culture is fundamentally an exercise in unraveling the psychological reasons why such things as sports spectacles, hula hoops, recipes, posters, cars, songs, dances, television programs, clothing fashions, and the like gain popularity. On the other hand, it is fundamentally the same approach taken by literary critics to the study of literary texts. Like literary critics, media semioticians identify and dissect the various *genres* that make up their subject and also explore the nature of *audiences* for each genre.

The appeal of interdisciplinary study is that it leaves the interpretation of a text or spectacle flexible and open to variation. This openness to interpretation is the main reason why there is really no one overarching semiotic theory of media culture, but many. Semiotic notions and techniques are currently being applied to the study of digital media, especially social media, such as Facebook and Twitter. The structure of the media texts and the nature of their contents, not to mention their psychological functions, are being investigated with the microscope of media semiotics more and more (see, for instance, Mazzali-Lurati 2007). The Internet has already morphed into the primary platform for enacting new forms of media semiosis. The Internet has already led to a redefinition of the roles of the author and the reader of a text. The “popular” in popular culture is now taking on a literal meaning, as readers interact with authors, scholars, artists, and others in determining how they will ultimately be informed, engaged, or entertained. One area of particular interest is that of how the new technologies are shaping codes and traditional sign systems.

One of the most conspicuous features of online communication is miniaturization, as evident in the constant production of compressed forms (abbreviations of words and phrases, acronyms, etc.) in the language used in chat rooms and other virtual linguistic communities. Is this a new linguistic phenomenon responding to new technologies? Is it spreading to language generally? What does this foretell for the

future of writing, given that there are few, if any, corrective forces at work in cyberspace? Will media texts become reshaped as a consequence? As mentioned at the start of this discussion, media semiotics can provide relevant insights into the interconnection between technology and culture, perhaps like no other discipline can.

Many are concerned about cyberspace and its influence on true culture and on the human psyche. As a result, some are prepared to take interventionist action. There is nothing new here. As Stan Cohen (1972) observed in his study of mods and rockers, new trends tend to be perceived with “moral panic,” that is, as indicative of a decline in morality and traditional values. As it turns out, however, as these lose their impact, blending silently into the larger cultural mainstream or disappearing altogether, the moral panic also evanesces. The idea that mass media culture is detrimental to human beings ignores not only history but also the fact that people can discriminate between levels of culture. Moreover, history also teaches us that interventionism has never worked. Prohibition did not work. Censorship does not work and can even backfire. As Peter Blecha (2004) has documented, some of the most famous songs of Billie Holiday, Elvis Presley, Woody Guthrie, the Beatles, the Rolling Stones, Jimi Hendrix, Frank Zappa, The Sex Pistols, Patti Smith, Public Enemy, Ice-T, 2 Live Crew, Nirvana, Bruce Springsteen, Eminem, The Dixie Chicks, and many more, were either censored or stifled in some way at the start. But all this did was to make them even more popular than they otherwise would have been. Even if it were possible in a consumerist culture to control the contents of media texts, this would invariably prove to be counterproductive. The answer is to become aware of the meanings that are generated by pop culture representations. When the human mind is aware of these, it will be better able to fend off any undesirable effects that they may cause. That is where media semiotics has proved itself to be the most useful.

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Marcel Danesi is professor of semiotics and communication theory, and coordinator of the University of Toronto Undergraduate Program in Semiotics and Communication Theory at Victoria College. Professor Danesi was, for many years, a distinguished member of the Department of Italian Studies where he taught applied linguistics and semiotics. He is presently a member of the

Department of Spanish and Portuguese. Professor Danesi is editor and coeditor of several book series with the University of Toronto Press, St. Martin Press, Mouton de Gruyter, and Guerra (in Italy) dealing with research and theory in the field of semiotics. Professor Danesi published profusely in the fields of linguistics, Italian studies, applied and cultural semiotics, and communication theory. Among Professor Danesi's numerous publications on semiotic topics, there are: *Vico, Metaphor, and the Origin of Language* (Indiana University Press, 1993), *Cool: The Signs and Meanings of Adolescence* (University of Toronto Press, 1994), and the latest *Analyzing Cultures*, with Professor Paul Perron (Indiana University Press, 1999) and *The Forms of Meaning*, with professor Thomas A. Sebeok (Mouton de Gruyter, 2000).

Chapter 21

Problems of Contemporary Architectural Graphics

Stela Borisova Tasheva

Architectural graphics is a major communication tool in design processes. As a formal language, architectural graphics connect architectural objects, their representations, and any viewers or creators. It is usually used as an information structure—a code or a message—and therefore its high level of accuracy and clarity are essential.

As architectural graphics express architecture, it replaces the real objects in various communication processes. But architectural ideas, their graphics or representations, and the real structures themselves are overlapping just partially (Fig. 21.1): An idea is not absolutely the same, as the final building or its representation.

Of course, it is mostly because the ideas, the graphics, and the buildings are conveyed within various tools and media, and are later perceived in divergent situations. But it is also because these three are often implemented by different people who are in processes of communicating their development to each other in some given time period. So, it is important to notice that even if we compare the three of them—the ideas, the graphics, and the buildings—like some kind of ideal information models, we may still find a number of distinctions.

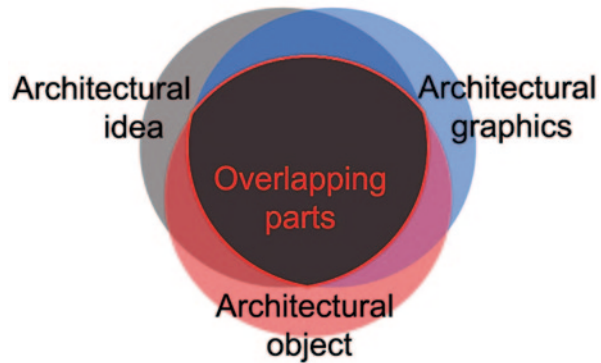
The present study explores contemporary architectural graphic artifacts and is focused on their public appearance in design, marketing, and political visual texts and discussions. The chapter will make a difference in various types of architectural presentations used in the public space. Design renderings are not meant to be a true analog of the existing architecture and still they often act for it and replace its real sense and vision. Thus, the mass substitutions of architectural objects with their jug-handled images in our data streams are social phenomenon that is changing what is contemplated as building environment or the architect's role of a creator.

Although drawings are meant to facilitate processes of building an architectural structure, nowadays they are also applied in too many different cases, and are imbued directly or indirectly with a lot of additional data. If we take, for example, Le Corbusier's project sketch of the chapel of Notre Dame du Haut in Ronchamp,

S. B. Tasheva (✉)

Institute of Art Studies, Bulgarian Academy of Science, Sofia, Bulgaria
e-mail: stelabt@gmail.com

Fig. 21.1 Overlapping of ideal models of ideas, graphics, and objects



which is a representation of an architectural object, we may notice also that the very same image “speaks” of its author and his style and point of view, it marks unique architectural typology, it can be used as a presenter’s branding strategy, and even be interpreted as a propaganda or marketing style. In this chapter, graphics is also investigated as a resource, enabling analysis of the way architecture itself is professionally searched and treated, as these forms are used as a common professional language, but at the same time, they are a special way to promote to the whole society marketing ideas of “new” and “ideal” house, office, city, and life. The study traces a case study of the later castle representations as a base to investigate the different communication models, types, and levels, but the author believes that most of the main archetypal building concepts like house (home), tavern, school, or hospital could be tracked nowadays in similar situations.

The research is part of a bigger project of the author, named “Bulgarian architectural graphics in XXth century—problems and tendencies.”

In semiotic perspective, there are many models that investigate aspects and features of the “second level” of communication. The roles of the viewer and the author are analyzed, and their shared visions, expectations, and behavior are studied in the theory of literature and narrative, in mass communication and political studies, and in sociology. There are various rhetoric methods applied to the message structure and many psychological studies about cognitive biases in communication or use and compensation of communication tools, blockers, and assistants.

Keeping closer to the architectural graphics, we shall accept that the second communication level is created by imbuing additional data in the message, and relying on some additional knowledge from the reader or the receiver, who must be able to read the imbued information (Fig. 21.2, up).

Later on the receiver himself can also send a complex message in return, again relying on the expected or demonstrated knowledge of the initial sender (Fig. 21.2, down). And the second-level communication is still conveyed by the same image.

For example, the main message of a castle project graphics is the way this castle is (to be) set and built, like in the topographic representation of the Round Tower of Windsor Castle by Paul Sandby (Fig. 21.3). Still the might and the dignity of

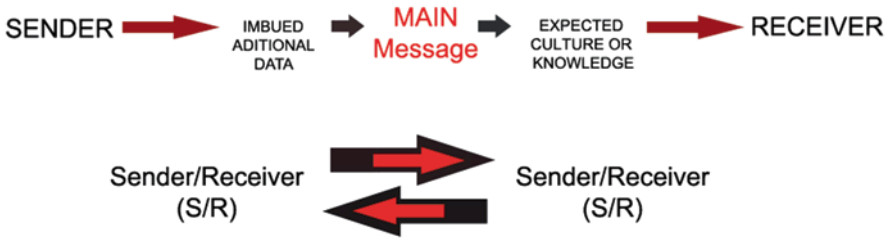


Fig. 21.2 Communication model with imbued data



Paul Sandby, *The Round Tower, Windsor Castle, from the Guard Room; with a carriage approaching the gateway at left and an armed guard in the foreground*, watercolour, over graphite, © The Trustees of the British Museum

Fig. 21.3 Castle representation

this castle building are emphasized with the chosen symbolic accessories, the used perspective composition and direction of light.

Usually, the first concept of the castle is linked to the Middle Ages, although there were different kinds of royal palaces, fortified cities, or fortresses long before that. The first buildings widely recognized as castles appeared in feudal Europe as defensive structures for local rulers (Davies 1996) and became an important feature of the social system. In Northern Europe, the first castles were often built with the scheme “motte and bailey”—a fortified spot usually surrounded by a moat and palisades that contains a wooden tower, built on an artificial mound (motte) within or flanking the courtyard (bailey) with other buildings (Tuulse 1958). Later castles were built with mixed structures (like stone walls, wooden roofs, and finishing elements) or as a compilation of wooden and stone buildings, surrounded with walls, where the donjon was the dominating structure. As castles were expected to outwear a siege, they were often self-sufficient—they were supplied with food, water, and other resources and reservoir units. Usually, they were organized with a center composition scheme, where the most precious spaces were surrounded by layers of

defense lines. The castle's "core" could be either high, in the upper part of a tower or donjon, or deep down in the building foundations.

The buildings were main, fortified nests of aristocratic families and clans, but at the same time, they participated in the state military system. Thus, their main functions were divided between "war" and "peace," between protective and noble residential needs. Therefore, the connotations of their architectural visions included "power," "might," "defense," and also "glamor," "prestige," and "dignity". As castles are built after the king's or a nobleman's order and are part of their properties, they usually connect with their owner's characteristics. A king's castle (and of course its graphics) is expected to illustrate a king's bravery and forces, his wealth, elegance, and strength. Also, castle silhouettes are expected to dominate the landscape and to "radiate" the message of this power as far as it is possible.

We may differentiate three types of visual tools that are used to create the imbued data in architectural graphics: conceptual, representational, and meta-tools. *Conceptual* tools are the intentional use of objects within the graphics that are logically connected and positively confirming the imbued concept. In the drawing of Windsor Castle in Fig. 21.3, these are the head of the armed guard over the left wall, or the royal decoration over the closer tower. *Representational* tools used for imbuing data are meant to cover the perspective view choice, the composition of the image, the light directions and targets, its color palettes, accents, level of informational saturation, graphical techniques, and so on. Usually, conceptual and presentational tools are used in parallel—an object is chosen and a drawing technique is applied over it. The parallel use of tools may be developed for purposive creation of tool sets as a specific work method, or even distinct suites of images as a template. These sets and suites are no more simple attachments, and must be referred as meta-tools, as formers of a global-message about the imbued data. In the case of castle graphics, these may be albums of fortifications as a representation of war knowledge or portfolios of residential or defensive structures as signs of might and power.

Like any forms used in written or recorded discussions, graphics are involved in quite long communication processes that can last for centuries as any drawing could be read, commented, or even implemented long after its author is deceased. Also, when drawings are displayed in public or multiplied in books, they reach more simultaneous viewers and communicate with all of them. At the same time, their iconic way of representation has enabled the ongoing process of entering new participants, and dropping out some of the others. In fact, in written discussions, there are no constant participants all the time. There are active data exchangers that are engaged in conversations over a theme, but there are also silent readers who only follow the others and do not share their own opinion. If a theme is exciting, some of the readers join the discussion, and on the opposite, sometimes a participant who raised a question or a topic might leave, getting no feedback for himself. Within the present technology, all these processes of multiplying and constant enriching of the data can happen quite fast. Thus, the written discussion can be treated as a network, where the sender and the receiver are nodes, and the message (simple or complex one) is a link—a connection—between them. We may differ with various types of multiple communication processes—like a media (a star) type of communication,

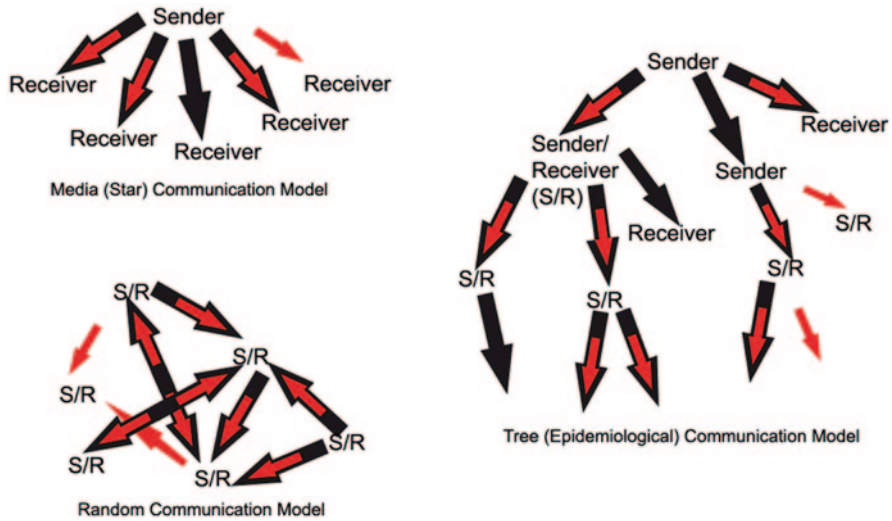


Fig. 21.4 Network communication models

an epidemiological (a tree) type, a random “small world” or another network type of spreading the information and, of course, all their combinations (Fig. 21.4). Again, graphics are usually integral data elements, containing all the information on one carrier. Their full reading depends on the message receiver, and his ability to read the technical geometrical data or the imbued additional impression. Still, if graphics are resent to a new receiver in a network, he might be able to read them fully, although the sender might have missed a meaning.

In this perspective, the creators (or the senders) of castle architectural graphics could at first be treated as the sender of the “media” communication model—as they are simultaneously expressing (radiating) building data and cultural connotations to any qualified public (Fig. 21.4).

After their initial use, if graphics are simply copied or multiplied in some way, we may deal with a kind of tree network communication, where each round the receivers turn into new senders and reradiate the graphics or we may accept any random model of circulating the castle data.

It is important to notice that castles are depicted not only in architecture. They are described in different books and historical notes, and later on, they invade the fantasy realms of building typologies. Some of them portrayed in novels or painted castles are based on existing buildings, but there are also a lot of visionary projects connected with ideas, emotions, or mythical creations. This multiplying of fantastic presentation has enhanced the archetypal presence of this building and its various perceptions. And as the concepts spread all over, the tower height and durability, the fortified walls, and the specific aesthetics of the building silhouette, as the main part of the castle message become defining for the “sense of castle,” although these were once chosen for military reasons. Their presence and visuals are determinative even today, when the castle functions are reconsidered and rearranged in various building replicas.



Fig. 21.5 Swapping messages

The massive introduction of gunpowder, the great changes in methods of warfare and defense, and the end of the feudal system made of king, vassal castles, and bond peasants alter the main castle functions. Often, existing buildings are abandoned or demolished, or are rebuilt in a new way as fortified cities or palaces. Most of the royal palaces in Europe, like Palais du Louvre, Burgpalast (Budavári Palota) in Budapest, Tower of London, Warsaw Royal Castle (Zamek Królewski), etc., contain in their foundations (or inside some of their main structures) a medieval castle.

In addition to the Middle Ages context, fortified residences and military posts, forming classic castle structures, can also be traced back to different civilizations in similar social situations, such as feudal Japan, for example.

As castles and their graphics usually have a longer duration than their creators, another process of signification shows up. First, the castle (or its graphics) represents its former creator or owner, then the building visuals adopt the “power,” “defense,” and “prestige” connotations from the owner or the author, and finally it is able to share those connotations over any new owner or sender. Thus, with accepting the building (or its graphics), or simply possessing it, a new owner is able to radiate also his possession of “power,” “defense,” and “prestige” or noble blood (Fig. 21.5).

According to Creighton and Higham, Robert “... the great country houses of the seventeenth to twentieth centuries were, in a social sense, the castles of their day. They represented wealth, status and contemporary architectural sophistication no less than had the castles of earlier centuries” (Creighton and Higham 2003). These are buildings quite close as a typology to the castles but in their plans were no significant defense or military spaces and the structures are usually called “estates,” “palaces,” or “mansions.”

An interesting example of full retranslation of the castle as a symbol, and reusing its powerful connotations, can be seen in the beginning of the twentieth century in the project of the Palace of the Soviets. The concept of this building usually marks the beginning of the so-called Stalin “empire” style or socialist “cult” style in architecture. The project was created during a regularly prolonged architectural competition in the period 1931–1950 and some researchers as Dmitry Khmelnskiy (Archi.ru 2004) believe that Stalin had total control over the submitted projects and the final building decisions. The Palace of the Soviets had been expected to form the center of New Moscow, and it had to represent the might of the socialist regime and ideas in an easy-to-understand and compelling way. In the final projects of Boris Iofan, the monumental and grandeur effects of composition are drawn to the extreme, and the building is turned to an ancient temple project topped with a huge statue of



Fig. 21.6 The Palace of Soviets

Lenin (Fig. 21.6). Although it is definitely not a medieval castle, the palace project adopts the castle hierarchy structure of valuable core surrounded by fortified layers, the concept of height and volume that is dominating the landscape, and the powerful proportions of the main tower.

Of course, this way of architectural representation of power is not a new thing. The neoclassical details and features, the symmetric composition, grand axes, and solemn entrance routes are commonly used to mark force, grace, and traditional obedience in a project. Also, use of the whole archetypal building—the castle—as a carrier of some “power” connotations is done in other periods. An example could be found in the concept of building the Neuschwanstein Castle, developed by Ludwig II, King of Bavaria in 1864. The structure was meant to be a carrier of German medieval traditions (Bayerische Verwaltung der, staatlichen Schlösser, Gärten und Seen 2013), and therefore its grandeur is representing the skill and the strength of medieval German knights. The interesting thing in the use of the Palace of Soviets project as a propaganda tool is the assignment of the traditional royal “prestige” and “power,” not to a certain family or even institution or idea, but to all the socialist soviets—the representatives of all the “common” people in Russia.

The Palace in Moscow was never built but its graphics are widely spread. They were introduced in various media and turned into carriers of Soviet style and architectural trends during that period. Later, after the Second World War, palace’s concept was adopted in the countries of the Eastern Bloc and was recognized as an important part of communist ideology affirmation. In Bulgaria, there are two palace projects that are fully developed: in the city of Dimitrovgrad and in Sofia, and they are also never built (except as palaces, these projects are also named as Houses of Soviets).

The Palace of the Soviets in Dimitrovgrad was proposed by Peter Tashev, after his assignment as urban designer, on the place of Lyuben Tonev. Dimitrovgrad is a new city structure—it was created on 2 September 1947, with a decree by Georgi

Dimitrov, unifying the villages Rakovsky, Mariino, and Chernokonyovo (and the space between) them in a settlement, expected to be the Ideal Bulgarian Socialist city. It was the first city ever in Bulgaria, designed by following a proper urban assignment (Желева-Мартинс 2010), and it was also meant to be number one in the country's heavy industry development. As its formal builders were chosen from the Squads of Brigade movement of Bulgaria, the town is often called in the press as "the young city of socialism," or "the city of Soviet– Bulgarian friendship." During this period, the constant process of creating new products, structures, buildings, designs, and so on was part of an innovation stream, that was aiming to prove the political value of the socialist regime and to strengthen the impression of its unique motivation, possibilities, and independent evolution. In this perspective, the urban plans of Dimitrograd were reconciled with an adoption of new socialist ideas on state administrative level, and were also engaged with spreading propaganda.

The first town plans, proposed by Lyuben Tonev, were criticized mostly for their lack of propaganda qualities—as they did not imply enough grandeur and solemnity for the ideal socialist city. His projects were developed as a green garden-type town with satellites, and therefore they were accused of bourgeois perspective, due to the low-rise silhouettes. Another feature of Tonev's designs for Dimitrograd is his wish to include more of Bulgarian "national" marks in the city scape—as, for example, a traditional Clock Tower for the main town square.

At that point, Tonev's project was stopped, and, in 1951, the city development was continued with the plans of Petar Tashev, that were accepted as closer to Soviet urban principles. Tashev doubled the expected city population, proposed higher blocks and larger density, borrowed from Moscow architecture some visual concepts, and his projects also emphasized on links with the main initiated by Stalin constructions. He used larger buildings, impressive central axis and squares, neoclassical façade treatment and festive symmetrical compositions, and his plans were accepted as most adequate by both the authorities and Russian colleagues. As a main object of the city center, Tashev proposed a Palace of Soviets developed in Stalin "empire" style (Fig. 21.7).

The "castle" project was following the example of the Union of Soviet Socialist Republics (USSR) concept, and was meant to perform a similar effect: To gain power and dignity connotations for all the socialist in Bulgaria, represented by the young city builders. This way, the project multiplied in other locations and also expected to unify the socialists all over the Eastern Bloc. In addition, the periphery castles must be proud but not outstanding—their smaller sizes highlight the originals in Moscow as the biggest and "mightiest" of all.

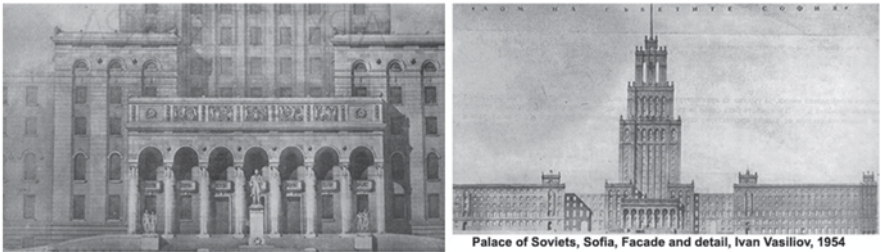
As a palace in the capital, the Sofia Palace is bigger, and higher, than the one in Dimitrograd, and it still carries the main typological Palace of Soviets features: symmetry, neoclassical elements, and central rising volume (Fig. 21.8). It was proposed in 1953–1954, and it came a bit late—as after the death of Stalin, all of his grand structures were reconsidered.

We can mark the propaganda created within the choice of content for the communication message, as a conceptional tool of data imbuing. The proposed architectural projects are accepted as valuable as they are visual copies of Moscow and



Axonometry of Dimitrovgrad City Center with the Palace of the Soviets. Petar Tashev
Picture from an open exhibition of Dimitrovgrad History Museum 2010
Courtesy of Dimitrovgrad History Museum

Fig. 21.7 Visuals of the center of Dimitrovgrad



Palace of Soviets, Sofia, Facade and detail, Ivan Vasilov, 1954
Pictures reprinted from Belkovski, Stancho, Public buildings in the nacional architectural exhibition,
In: Architecture, Edition of the Section Architecture, Science-Technical Union, 1954, N 5-6, p. 1 -2

Fig. 21.8 The Palace of Soviets in Sofia

Soviet socialist building models—they use their function concepts, logics of architectural structures, and imitate the urban trends. It is also possible to find some common details in the selected ways of representation: the huge scale of the chosen perspective, the visual lessening of human figures compared with the building masses or the emphasizing on the symmetry and on the main axes. This representational imbuing tools turn into a kind of socialist visual culture.

The Dimitrovgrad Palace was not built, but its visuals spread and are widely used propaganda tools. The whole city construction was depicted in a lot of posters and paintings, and some of them even project the palace as an ongoing building process, as in the picture of Dimitar Kuzmanov—*The Building of Dimitrovgrad* (Социалистическото строителство в творбите на българските художници 1954). There, the workers are presented watching far away above the horizon. Usually, this is the way expectations towards the “great future” are marked in the socialist visual culture. In this image, this future is presented as a real object with the palace project. It is not a coincidence, as during the Socialist period, large construction projects of all types were turned into metaphors of the State’s might and power, and their visuals were affirmed as a major part of the propaganda strategies. Main industrial systems or installations were usually represented as deeds of the main socialist leaders and were shown as extremely important state decisions. The propaganda focusing on the building process serves as a method of swapping the final built product’s pros and cons with the long journey for its achieving. This way, the existing problems of the final products or resources were replaced with accents covering the processes of development and moving towards the future. Thus, the iconography of working people staring at the bright future became a must in most official art pieces.

After Stalin’s death, the use of solemn palaces in neoclassical style as the main symbols of socialist people and workers was found to be an unnecessary splendor, and more energy is focused on representations of gathering and uniting people in groups. The accent in Dimitrovgrad visuals was on highlighting the youth and the determination of builders and creators, their strong positive feelings, and dreams. For example, the implementation of the city of Dimitrovgrad is depicted in the 1956 “heroic” movie “Dimitrovgradtzi” where some now-famous Bulgarian actors like Georgi Kaloyanchev, Maria Rusalieva, and Ivan Dimov play a role. The main theme of the film was the life of the Brigade Squads as city builders, the personal experiences of their members, and their dreams of Ideal New World linked to the stages of building the city. The process of its construction was set to a high spiritual level, and later the sense of great mission was transferred even in lighter domestic scenes in the movie. Construction footage of the city occurred at the inauguration of the newly developed sites, where in the presence of all the “new” people, urban spaces were saturated with “new” life. The movie poster also used the belief in the beautiful future depicting the leading actors staring up and ahead, towards it (Fig. 21.9).

Visualizations of the city, especially in the professional literature, persist long after its initial construction, and continue to link the physical essence of the city with the ideas of socialism and the changes in Bulgaria. “Dimitrovgrad—a child of September, 9”—was the title of an article in 1954, by Peter Tashev, where he was associating the city as a child of the Revolution, or the day of Bulgaria’s officially converting to socialism. Nearly 30 years later, the title is again “*Dimitrovgrad—a symbol of the renewal of our socialist country*” (Ташев 1954, 1982).

We may notice that more than just packing the expected message with additional imbued data, propaganda creation is even able to replace the main features in the ob-

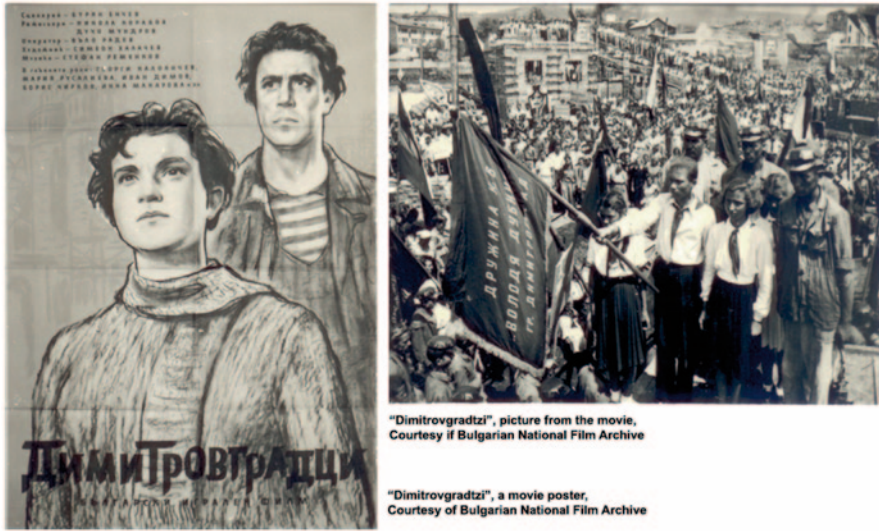


Fig. 21.9 The movie of “Dimitrovgradtzi”—poster and picture

jects: Processes are swapped with their results and the possibilities and some political expectations are mixed with the real objects and events. Of course, swapping can be a problem when it comes to pure data exchange in communication, as it causes a lot of misunderstanding. Still, as far as it is reaching the propaganda goals, it is often applied. The use of replaced objects and the application of people masses saturating the structures become a popular meta-tool of creating propaganda visual sets.

It is important to notice also the strong links developed between the castle and its owner. We already saw how the castle is able to adopt the power and prestige connotations from the concept of its initial builder, and also how it is able to transfer the same connotations on any new owner. But after these cases of propaganda swapping, castles and their owners could be almost fully interchanged as carriers of connotations.

In contemporary architectural graphics, castle typology is widely spread. The connotations of “power,” “defense,” or “prestige” are bouncing in various directions—from owner to a building, and vice versa. An interesting case in this process could be the case of castle recognition, in the project of Ricardo Bofill transforming a cement factory in Barcelona (ArchDaily 2012). In his design, the connotations of the abandoned structure were found suitable to be converted in a luxury estate, where the harsh severe industrial spaces are reborn as mighty, glamor, and artistic ordonnance, implanted with various medieval details.

Adopted in the movie fictional world, and also embraced in the game industry, castles lighten a bit and also take the connotation of “entertainment.” They spread in resorts, playgrounds, and thematic parks, embrace new, a bit “vulgar,” materials like PVC. Why not build a castle in the backyard? Why not build a cozy homemade castle to live in? Why not make a nostalgic sculpture of what a romantic castle

should be, as in “Le Palais idéal” by Ferdinand Cheval (Postman Cheval’s Ideal Palace 2013)? Why not draw an artistic castle as Hundertwasserhaus in Wien, or Waldspirale in Darmstadt?

Still contemporary castle’s typologies continue to develop versions of the building mainstream. The main connotations of “power,” “defense,” or “prestige” are now translated as extreme construction “size,” full “self-sufficiency,” and “safety”. The new castle structures began with humble corporative castles, supplied with all the urban lifestyle goods and services, which manifested the company power and wealth to the world. These operate mostly with their overwhelming size, luxury, cladding, and impressive finishing materials. Later on, castles evolved into hybrid energy-effective complexes secured with independent water, heat- and energy-producing and -saving devices, like the Linked Hybrid or the Horizontal Skyscraper by Steven Holl Architects (e-architect 2009; Designboom and Chin 2009). The typology finally bloomed into versions of self-sufficient vertical fortresses dominating the cityscape like the Vertical farms (Despommier 2013) or even floating artificial islands—as gorgeous getaway resorts, or climate refugees Ecopolis (Callebaut 2008).

But within the process of constant multiplication of the castle, new, postmodern, or even parametric replicas of its functions and structures occur. We shall scan three of those castle propositions. The first of them are two challenging works of the Swedish studio VisionDivision, The studio enters the castle world with various offers, and one of them is simply an attempt to multiply and socialize the tall lone building archetype with separating “the building into over a hundred of sleek towers” in their Tower Town project for the Taiwan Tower international competition (VisionDivison 2012a). Their Spröjs Castle (VisionDivison 2012b) goes way ahead in this direction, proposing the implementation of huge castle structures with “combinations of different modular towers,” made by spröjs structural elements (mullions or similar-type shelves or separators). The stunning combination of castle archetype scheme and the light, modular structure plays with the building connotations, and offsets them to more social and ironic understanding. This modular versions of the castle are later evolved by other artists in more and more fabulous, parametric, and/or ecological proposals, like some honorable mentions in the 2013 eVolo competition (E Volo 2013).

Another impressive contemporary castle project is revealed in the Haverleij complexes (Bouwfonds Property Development, Haverleij 2012). The concept consists of nine modern castles, “that combine compact construction with an expansive green environment.” The unique characteristics of each of the castle groups give to its inhabitants the sense of difference and recognition, thus creating new features of the spaces. It is important to notice the use of each castle as a gathering point, and also the way of socializing and sharing the castle concept in between a group or community.

The last castle version is the Emperor’s Castle project by Hillier (2012), where the castle is multiplied to a number of “lungs,” a cluster of working together buildings.

The visuals of all these projects spread all over, like never before, frozen in their most impressive shots and perspectives.

Contemporary written discussion is usually online, and it has an extensive reach and speed. Moreover, any reader or writer is able to connect easily with the others within the real world (within a given time period, of course). For example, in the world of architectural markets, participants may be either clients or designers—either buying or selling architecture. Because of their possible social and market positions, any potential for a real-world interaction is closely considered. And in their communication concerning some given architectural object, they are exchanging also data about not strictly defined things like representations of design ability, professional recognition, success, values, prices, etc., and these future face-to-face dialogues dictate the way written conversations are carried through. Aiming to preserve some personal or company “know-how,” the freely spread information is usually partially presented: Enough to inform and tease a random reader, but not enough to be directly and fully acquired in copies.

Due to the inevitable need of sharing important news and approaches in the situation of fast and constant technology changes, professional forums and discussions are kept with diversified access levels—flashy and suitable for random visitors and possible clients, or on the opposite, with restricted access but with more strict, raw, and internal data, appropriate for designer colleagues.

Another important and widespread phenomenon in contemporary architectural design is the full submission to digital and computer-aided design (CAD) graphics. Handmade sketches are more and more rare artifacts, and are applied much more to express an author’s individuality and unique style, than spectacular architectural data communication or presenter’s drawing skills. CAD graphics also enable new ways of creating, recording, and organizing the architectural data, with high levels of realism, various technology and speed alleviations, and additional options of selected information layers—for clients, archives, researchers, builders, etc.

On the other hand, with the enormous information streams surrounding any Internet user, the attention span concerning architectural data is quite limited. There are too many interesting and comprehensible news and cases, so that architectural data cannot afford to be in need of special translation. The visuals must speak, in a way that everyone is able to understand them quickly, and to fall enchanted in their wit and concepts. Therefore, the distribution in the net architectural information is usually packed as one catchy image and short-text explanation which then leads to a larger, more detailed preview with full text and graphics. Of course, any castle project is shared in the net with its most castle-like image—including the main building features or the proper castle environment with large-scale landscapes.

In his interview with Robbins (1997), the famous architect Renzo Piano claims:

We never do perspectives. I hate making perspectives. Making perspectives and wedding cake models is to me completely inadequate to express architecture. It is a way to capture the magic architecture in something you can understand fully, totally. And that is fake, not true. It is a kind of mystification of something [architecture] that is by nature wild.

About 80 years before him, a Bulgarian architect, Trendafil Trendafilov writes in his architectural textbook, his worries about the photography invading architectural graphics and representations. He explains that:

...photos express the things in different way than they are captured in reality with our eyes. Almost always they enhance the outlook and cause wrong understanding, so that a trivial and simple building may appear as beautiful and interesting. (Трендафилов 1912)

Both of those authors, and, of course, many architects, are aware of the misleading abilities of the so-called realistic graphics (although these two meant different types of graphics—full perspectives and photos). Still realistic architectural images are the main essence of contemporary project presentations as the most easily understandable ones. And they spread more and more.

According to Heylighen and C (2001) in their explanations of the second-order cybernetics principles, an observer (in our case, an observer that shares his observations can be any data sender or a receiver) and the observed event must not be accepted as absolutely constant or independent elements. Moreover,

... the more coherent a piece of knowledge is with all other available information, the more reliable it is. Second, percepts appear more “real” as they vary less between observations.... There is moreover invariance over observers: if different observers agree about a percept or concept, then this phenomenon may be considered “real” by consensus. This process of reaching consensus over shared concepts has been called “the social construction of reality.”

So, in some way, when a version castle typology is multiplied and widely accepted as true, it gets saturated with the “reality” of all the observers. The true castle is the one recognized as such. And also within all these repetitions, the castle goes more powerful and stronger as a concept. So sometimes this concept is able to alter the communication process itself, interchanging its components. Because, when a castle structure is used as modular system, social center, gathering point, or creator of home and group authenticity (as in the projects of VisionDivision, Haverleij or Emperor’s Castle), it is no longer affected that much by the classic building connotations of “power,” “defense,” and “prestige.” In fact, these concept interpretations are not answering, but posing questions: What is power? What is self-sufficiency and defense? And prestige? Isn’t it that the power now is not the sense of height and military significance, but the ability to focus all the people in one community and space? Isn’t it that the possible defense is the ability to rely on this community? Isn’t it that the prestige is the sense of being a full member of this group?

Thus, we may now propose a new “Facebook” communication model, where a strong message is able to interfere and even to interchange the classical sending and receiving participants (Fig. 21.10).

We can borrow the name Facebook as in fact this social networking service already uses the software modeling of all different nodes like “events” or “institutions” to generate the news stream. But in the proposed communication model, there is no “castle administrator” to generate or control the castle message.

In the culture space, a message which is big enough—so big that it imbues its own sender and/or receiver with additional connotations and data—this strong and mighty message, can be represented as a dynamic element, able to switch from link to node, and vice versa. Thus, the message of the castle is expressing its own typology development and accepts in return the feedbacks of attitude and possible interpretations and evolutions.

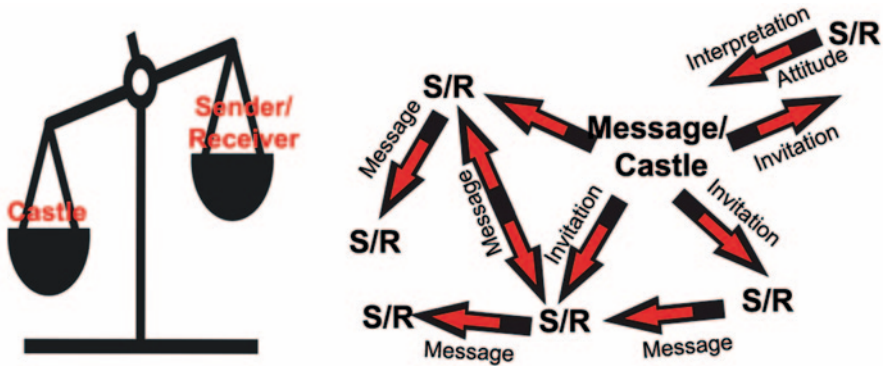


Fig. 21.10 Facebook communication model

In conclusion, we must confirm the inevitable imbuing of architectural graphics with layers of additional data. Their full understanding depends on the conceptual, representational, and meta-elements, that are used to create the message.

When the used message is big enough, as for example the castle concept, it could question and even change the participants and the communication process itself.

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Stela Borisova Tasheva PhD majored in residential buildings in the University of Architecture, Civil Engineering, and Geodesy in Sofia, 2001. Afterwards she created designs of residential, office, hotel, and educational buildings for various architectural studios. In 2009, she joined the Bulgarian Academy of Sciences as an assistant researcher, and in 2012, she defended her PhD thesis “Semiotics of Architectural Graphics” in the field of theory and history of architecture for the Institute of Art Studies, which was also published. Now, she is working there as a researcher, assigned with the project “Bulgarian architectural graphics in XXth century—problems and tendencies.” She also teaches classes in theory of composition and form formation theory as an assistant professor in University of Forestry, Sofia

Part IV
Biosemitotics

Chapter 22

Introduction to Biosemiotics

Kalevi Kull

The principal direction, or at least tendency, of the development of the sciences is towards ever greater understanding. In those fields that engage with the phenomena of life and culture (that is, biology and the humanities), there are things that have remained vague even during this heyday of the sciences. Jakob von Uexküll, who studied biology in Tartu during the 1880s, was driven to deal with signs and meanings by a desire for a more scientific biology than was prevalent at the time. In the theory of sign relations (which we call semiotics), he discovered the foundation for life sciences.

The persistent need for semiotics, indeed, derives from the fact that semiotics is a fundamental science—the foundational science for all those disciplines that are engaged in studying modelling systems. Modelling systems include all sign systems, as the semioticians of the Tartu–Moscow school argued now more than half a century ago. And no living being can do without sign systems. Semiotics, put otherwise, is a qualitative science of complex adaptive systems, which are precisely those systems in which meanings are generated. Semiotics is the study of meaning making.

One of the primary theses of the book *Universe of the Mind* (1990) by the semiotician Juri Lotman is that text, culture, and mind¹ are alike in certain important aspects, and the aspects in which they are alike can be explained by semiotics. And if we define mind as all that which generates meanings, i.e. which is by nature

¹ *Mind* also includes all the types of Aristotle's *anima*. Translating J. Lotman in this manner one can lean on his shifting use of expression. In the Russian title of the book, “Внутри мыслящих миров”, the word *mind* is rendered *мыслящие*, or *thinking*; supposedly, one working title of the book was “Самовозрастающий логос” (self-expanding logos). Lotman defines intellect in relatively broad terms, not as uniquely human. Compare Hoffmeyer and Kull (2003).

K. Kull (✉)

Department of Semiotics, University of Tartu, Tartu, Estonia
e-mail: kalevi@ut.ee

relation-based or meaningful, then semiotics as the field that studies signness is simultaneously both a theory and constitutive of mind.

A sign is, by definition, “something that stands for something else”. Something is a sign if it is not merely itself. Thus, signs are by nature plural. In consequence, the domain of the mind is the domain of multiplicity, of plurality—it can indeed be defined precisely in such a simple manner.²

At the end of the nineteenth century, there developed the understanding that mind can be understood through language, since mind is sign-based, and the (human) logic that operates with signs is, in turn, also language-based. From this insight, foundation was laid for three major directions in the philosophical thought of the twentieth century: phenomenology, initiated by Edmund Husserl; analytic philosophy, proceeding from Gottlob Frege; and, from Charles Sanders Peirce, semiotics as it is today commonly defined.

During the 1960s, when the semiotic approach matured into an independent discipline, it underwent a shift from language (in which Ferdinand de Saussure had effectively applied it) to semiotics of culture, as led by Juri Lotman, and on the heels of Thomas A. Sebeok to zoosemiotics. This meant that the structural rules of mind were seen to extend to both domains (to supra-individual and infra-individual). Thus, to sciences of culture through the semiotics of text, and to biology through semiotics of animals.

The discovery that the behaviour of animals is not merely a chain of automatic reactions, predictable by universal laws of nature similar to those governing fire, air, and water, or any chemical reaction whatsoever, but is rather coded, based on experience, and presumes recognitions, i.e. truly sign-based, meant treating biology from a new perspective. Physical methods of description are insufficient for describing signness.

If a mother fox and her cubs communicate with signs, then it is quite obvious to assume that ants and bees, spiders and earthworms also use signs—as do any and all animals. Does this hold for unicellular organisms as well? How far does mind really extend?

Surprisingly, contemporary biosemiotic understanding concerning the types and extent of signs almost overlaps with the views of Aristotle. Aristotle, as is well known, divided mind (*anima*) into three basic types: vegetative (*anima vegetativa*), animal (*anima sensitiva*), and rational (*anima rationale*). Signs are divided likewise, comprising three major levels of sign process, or semiosis: vegetative, animal, and linguistic (cultural) semiosis. For semiotics, this means, however, that the overwhelming majority of semiosis is not conscious. Conscious sign processes are but the tip of the semiotic iceberg.

² Naturally, not everything in the world is plural; there are also singular things. With this we accept that in addition to mind there is also non-mind (that is, non-plural, or singular)—and thus there exist regions of plurality, that is, of signness (i.e. semiospheres). Such a world view (an ontology) can therefore also be called *local pluralism*.

22.1 History of Biosemiotics Viewed from Afar

There is a long-running debate in biology about reducibility and unity—or lack thereof. To what extent can life be reduced to nonlife? To what extent are the regularities of the living the same as the laws of nonliving nature?

In a sense, this separation of mind from the nonliving is far deeper than any other problem in biology. One of the basic principles of biosemiotics is the repudiation of René Descartes' distinction between mind (*res cogitans*) and body (*res extensa*), or between culture and nature—since these are superficial, rather than substantial divisions. Certainly, a division between the minded and non-minded must be drawn, but this division would not rest on a Cartesian foundation. The difference between a living body and a nonliving one is deeper and more primary than the one between the living body and mind. The non-Cartesian division that semiotics (from at least since the development of biosemiotics) considers to be primary is the difference between signness and non-signness, between plural and singular, between the life produced and the nonlife produced. Signness, the life created, includes both conscious and nonconscious signs, both purposeful and non-purposeful communication.

This kind of an approach, which acknowledges the interrelation between the mental and the living, and the importance of studying this relation, has been prevalent in epigenetic biology. It is this that is an important root of semiotic biology.

The polarization of biological viewpoints into preformationist and epigenesist ones, and the alternation of corresponding historical periods, has shaped biology to this day. Preformationism is the conception that the structure of organisms unfolds from a seed, so that the cell already contains its entire complexity; development is nothing but growth, of becoming bigger. This eighteenth-century view was displaced by the birth of embryology, prompted primarily by Karl Ernst von Baer's foundational work, published in 1828, *On the Development of Animals* ("Über Entwicklungsgeschichte der Thiere"; vol. 2 published in 1837).³ There followed a 100-year period of epigenetics, during which many of the brightest minds supported the view that during the development of an organism principally new properties can be born, relations and functions that do not exist in advance in the egg cell.

The next turn in biology was called the *Modern synthesis* of the 1930s. This new turn was able to synthesise genetics, population biology, the doctrine of natural selection, and parts of palaeontology. It was a turn towards the so-called genetic preformationism, according to which the entire complexity of an organism is programmed by its genome; and only with this development, the Darwinian view became the dominant one (under the name of neo-Darwinism). Signs of a new turn, within which we probably currently reside, could be detected from the early 1990s onwards, when developmental biology once more began to foreground epigenetic inheritance. This mechanism of inheritance is accompanied by a renewed interest in the role of learning, that is, the attribution of new meanings. In this, a considerable role is played by biosemiotics, the foundations of which were laid already

³ In 1820s, also the earlier work of Caspar F. Wolff on epigenesis was rediscovered (Jahn 2001, p. 95).

during the previous period of epigenetics (from 1830s to 1930s), relying, among other works, on Jakob von Uexküll's *Theoretical Biology* (1st edition 1920, 2nd, expanded edition 1928/1920) and *The Theory of Meaning* (1982/1940).

The word *semiotics* was little used in the early twentieth century, and it was almost entirely absent from biology. But a different vocabulary does not hinder the intimacy of ideas. Uexküll's *The Theory of Meaning* was based on long-lasting studies of the behavioural physiology of animals. The mechanism discovered, described by Uexküll with the model of the functional cycle (*Funktionskreis*), is the foundation for all functional (adaptive) behaviour. It also lays the foundation for the organism's *umwelt*, that is, everything that is real for that organism. One of the central questions of biosemiotics is indeed: What is *their* world like, how do *they* perceive one another.⁴ An organism's *umwelt* consists of its sign relations: Those distinctions that it makes.

Uexküll developed both theoretical and empirical methods for describing the sign-based worlds of other organisms. Such a description presumes knowledge of both external and internal functioning, that is, of behaviour and physiological processes. He drew a distinction between sensory signs (*Merkzeichen*) and motor signs (*Wirkzeichen*). Only together, and within a feedback loop, do these constitute the *umwelt*. In order to describe the *umwelt* of an animal, one must study their capacity for making distinctions. With signs, every organism is harmoniously connected to the world—the functional cycle (which is indeed the process of signs) makes the recognizer and the recognized correspond.

Uexküll's approach is somewhat similar to the pragmatist view as developed by Charles S. Peirce.⁵ The correspondence is born in behaviour and communication, and it takes place relatively quickly, if it does at all. According to Uexküll's view, the evolutionary aspect in explaining the behaviour of organism is secondary. The evolutionary processes change the possibilities for behaviour, but these changes are exceedingly slow.

Uexküll relied considerably on the biological views of Baer.⁶ This meant an epigenetic approach, the primacy of the ecological and the ontogenetic to the evolutionary, the discernment of the differing temporality of different organisms, and the treatment of type and rhythm as the building blocks of organic form. Yet Uexküll studied physiology and behaviour—aspects which were mostly neglected by Baer.

In the decades after the “modern synthesis” of the 1930s, Uexküll's theories had few followers who would develop them further. Among those were Helmuth

⁴ Such a task was also formulated by Rosen et al. (1979, pp. 87). Cf. Kull et al. (2008).

⁵ For a more detailed comparison, see Uexküll (1992).

⁶ For Baer's views, see Baer (1864). It is worth noting that in 1826 Karl Ernst von Baer was elected the professor of physiology, pathology and semiotics (!) of the University of Tartu, but he refused, since, at the time, he was conducting empirical research in Königsberg. Medicinal semiotics, one of the oldest branches of semiotics, engaged in studying the signs and symptoms of diseases, was well developed in nineteenth-century medicine. Medicinal semiotics, biosemiotics, and general semiotics were later unified in the works of Thure von Uexküll, the son of Jakob von Uexküll. (In 1994, Thure von Uexküll was elected honorary doctor of the University of Tartu in the field of semiotics and medicine.)

Plessner, Adolf Meyer-Abich, and Adolf Portmann. Nevertheless, Uexküll also had a considerable influence on both Ernst Cassirer and Martin Heidegger,⁷ and also to José Ortega y Gasset and Maurice Merleau-Ponty. The wider rediscovery of Uexküll, however, appeared since 1980s.

22.2 History of Biosemiotics Seen Up Close

Although biology was included in the field of semiotics by several classical authors, such as by Charles Peirce and Charles Morris (Santaella 1999; Petrilli 1999), the direct application of semiotics to biology largely commenced with the work of Thomas Sebeok. From the study of nonverbal communication during the 1960s, he then turned to the study of animal communication and ethology, and interpreted this field as zoosemiotics (Sebeok 1977). He compiled several major overviews of animal communication. In parallel, the concept of biosemiotics, together with a semiotic approach, was applied by Friedrich Rothschild (1962; 1968), who primarily studied brain processes and of whom most semioticians heard only in the 1990s.

The linguist Thomas Sebeok and the literary scholar Juri Lotman turned their interest toward semiotics almost simultaneously—in the early 1960s. At the time, they took no notice of semiotic theories in biology, and the relation of semiotics and biology seemed one sided: only as a possibility to apply semiotics to biology.⁸ At the time, it did not raise much interest among the biologists. To be more precise, there was interest, but there was as yet no key for an effective application, incongruity between methodologies was large, and the relations between the two fields were yet to be worked out.

The situation changed when, during the 1970s, Thomas Sebeok discovered Uexküll for his own work and began to propagate his works more widely during the latter part of the decade.⁹ By 1981, Jakob von Uexküll was fully included among the most important classics of semiotics (Krampen et al. 1987/1981).¹⁰

In the early 1980s, directly influenced by Uexküll, Martin Krampen put forth an analysis that substantiated the existence of semiosis in the plant kingdom, and named the corresponding field *phytosemiotics* (Krampen 1981).¹¹ This was an important step in incorporating biology into semiotics.

The year 1984 saw the publication by a group of leading semioticians of a manifesto on the place and relation of semiotics with other sciences (Anderson et al.

⁷ On these influences, see, e.g. Mildenberger (2007).

⁸ Naturally, there are more aspects to this, see e.g. Kull (1999).

⁹ T. Sebeok has described this period numerous times, e.g. Sebeok (1998).

¹⁰ Somewhat later, John Deely (2001, 2004) will put forth an analysis in which Uexküll stands next to Peirce as the ones who initiated the turn that would end modernity.

¹¹ A name unfortunately somewhat misleading, since according to the more substantial division what is important is not the semiotics of plants, but rather the semiotics of the vegetative level (i.e., including the sign processes in protists, in fungi as well as of the tissue level in animals).

1984), which also legitimized biology for semiotics. This introduced into general semiotics concepts such as *umwelt*, coevolution, symbiogenesis, exaptation, and others.

Biosemiotics began to develop more intensively during the 1990s. An important landmark was the first book to bear the title of biosemiotics, which also laid the foundation for an international collective of biosemioticians (Sebeok, Umiker-Sebeok 1992).

In June 1992, a small symposium took place in Glottertal, South Germany, where this core collective met for the very first time.¹² During the next decade and a half, this group conducted most of the international debates on biosemiotics. Nearly all larger conferences in semiotics now included a session on biosemiotics, yet, nevertheless, only under the wing of semiotics (cf. Emmeche et al. 2002; Favareau 2007).

From 2001 onwards, there commenced independent international, annual conferences on biosemiotics—*Gatherings in Biosemiotics*. The first one took place in Copenhagen, the next on in Tartu, and subsequently in many different locations all over Europe (see the review in Rattasepp, Bennett 2012).

In 2005, the *International Society for Biosemiotic Studies* was founded (cf. Favareau 2005). The same year saw the publication of the *Journal of Biosemiotics*, published by Nova Science (USA); limited to two issues only, it continued in 2008 as the journal *Biosemiotics*, with the same editors, now published by Springer. The same publisher has also launched a book series on biosemiotics (Barbieri 2007; Hoffmeyer 2008b; Favareau 2010; Markoš et al. 2009; Martinelli 2010; Pattee, Rączaszek-Leonardi 2012; Romanini, Fernández 2013; Schilhab et al. 2012; Swan 2013; etc.). The first voluminous anthologies of biosemiotics have also been published (Favareau 2010; Maran et al. 2011), and biosemiotics is now part of anthologies of general semiotics as well (Stjernfelt, Bundgaard 2011).

Jesper Hoffmeyer, who has been the leader of this field for nearly two decades, published an overview of the biosemiotic approach in 2008 (Hoffmeyer 2008). The fundamental theses of biosemiotics, collectively formulated, have also been published (Kull et al. 2009), as has been a collaborative volume comprising the works of the biosemioticians of Copenhagen and Tartu (Emmeche, Kull 2011).

Recent years have seen a rising interest in biosemiotics both in the humanities in general (Cobley 2010) and among biologists (e.g. Else 2010).

22.3 Semiotics and Physics, Rules (Relations) and Laws

If physics (or the exact sciences) can be defined as a group of disciplines that are engaged in the study of laws which no one has imposed—because the laws of nature are universal and cannot be created—then semiotics can be defined as a field that engages in studying the regularities (relations, rules) established by life (including

¹² See Kull (2011).

humans and cultures). In addition, semiotics studies the appearance of such life-created regularities and sign relations, via meaning making. Such established regularities or rules (codes) persist due to inheritance, they are memory-based. Physical laws do not require inheritance or memory in order to persist.

The process of memory is similar, in its general structure, to the process of communication. It includes meaning making, and it is based on autocommunication, that is, communication with one's own self, as described by Lotman's model of communication. The process of memory is itself the process of life, the preservation of relations, which also rearranges matter. The process of life (autocommunication, process of heritance, process of memory) rearranges matter both in smaller and larger biosystems, both in organisms and in ecosystems. Vladimir Vernadsky, geobiochemist and one of the originators of the doctrines of biosphere and noosphere, indeed defined the biosphere as the rearrangement of matter by life, and noosphere as the rearrangement of matter by the human mind (Vernadsky 1998/1967).

That life is the rearranger of things is down to the fact that life is based on relation-making and its products as relations or codes. Codes are correspondences that are not the result of general physical laws (naturally, they are not in contradiction with them either), but are rather local regularities that have or have been developed historically. For a code to persist, it must be constantly renewed, that is, transmitted: code is based on memory. Moreover, a code can never be isolated: in order to persist as a process, both reading in and reading out, both sensing and acting (according to Uexküll: *merken* and *wirken*) are required. A certain incompatibility between these opposites is required for meaning making, of semiosis to appear. As Juri Lotman emphasized: There cannot be just one language, the minimal process of culture requires at least two languages. Or more generally: Minimal sign process requires at least two, or rather several codes. In biosemiotics, Jesper Hoffmeyer and Claus Emmeche (1991) have formulated this as the principle of code duality of life, but a more precise definition would describe life as polycoded. Consequently, life is a self-making and self-preserving *codescape* or code process, which is also a sign process or *semiosis*. The *semiosphere*, which Lotman clearly distinguished from Vernadsky's biosphere as the rearrangement of matter by life, is thus a total set of relationships—thus not matter but *relations*. In other words, semiosphere is life itself *in toto*.

It should be clear from the above that according to the biosemiotic view, the line between the living and the nonliving is primary and the line between the living and the thinking is secondary. Or put differently, the semiotic threshold (a concept coined by Umberto Eco 1979/1976) is the boundary of the living and the nonliving. Within the living, however, there are yet more dividing lines, including one between things internal to culture and things external to it, which is a threshold between types of semiosis and which, according to the biosemiotician Terrence Deacon (1997), corresponds to the symbolic threshold.¹³

¹³ Or rather threshold zone (see Kull et al. 2009).

22.4 The Biosemiotic Understanding

An attempt at a brief formulation of the specificity of the biosemiotic approach from the perspective of biology would encapsulate it in the claim that life processes and the phenomena of life are inherently communicative. Biological species—the primary manner of organization that covers most organisms—is a suitable example of a communicative phenomenon. The issue concerning the nature of species has long been one of the more complicated and disputed theoretical problems in biology. Central to it is the ontological question; in what manner does a species exist?

According to the biosemiotic view, a biological species is a group that develops as an effect of communication between organisms; it is a communicative category that is based on mutual recognition between biparentally reproducing organisms. This means that a species is not determined by the individual traits of an organism or a group of organisms. Rather, it is determined by a mutual recognition of one another of organisms, which is required for biparental reproduction and which also ensures the regeneration of the species. As such, a species is defined on the basis of relations, rather than traits. All other semiotic categories are defined in the same manner: that is, relationally.

Fundamental relationality means that the phenomena of life are internally incomplete; they are related to an absence. Recently, Terrence Deacon (2011, p. 27) has coined the concept of *ententionality* to refer to this quality. In addition to phenomena usually called intentional, ententionality encompasses biological functionality, adaptivity, and needs. Indeed, needs have been defined as the recognition of the absent, dependency on something that is not.

The process of life is a perpetual process of translation—*translation* in a wider sense, as the interpretation of something that exists in one sign system according to another sign system. The process of life is also a process of learning and inferring in a simpler or more complex form. This understanding was considerably advanced by the discovery of the genetic code in the 1960s,¹⁴ and the consequent discussions about the concept and meaning of information, of the origin of information and meaning making, as inspired by this discovery. The process of translation is central to the genetic code, which is rather a complex of processes that manages the correspondence between nucleotide triplets and amino acids. While the concepts of “code” and “translation” were initially used metaphorically, one of the more important conclusions of biosemiotics is that these are in fact semiotic processes, that is, actual aspects of semiosis. Much like the correspondence between a phoneme and the shape of a letter cannot be deduced from general physical laws, so too this applies to the genetic code as well (the correspondence between codons and amino acids), since both instances are examples of historically developed, rather than physically determined correspondences.

On the level of the cell, we should also discover the lowest semiotic threshold zone: In the nonliving world, outside the biosphere, and the noosphere, there are no

¹⁴ And the much later discovery that there is not just one, but a bevy of (slightly different) genetic codes.

non-determined, inherited correspondences, or code processes. A minimal requirement for semiosis is the living cell.¹⁵ Moreover, there are more interpretation (and coding) processes within cells than the translation mentioned above; for example, transduction, or the communication between inside and outside mediated by the membrane enzymes. This, too, can include memory-based correspondences, for which reason the functioning of a cell can be selective and individual.¹⁶

Intercellular communication exhibits several properties that are common to most communicative collectives. Those individuals who fit one another become synchronised and more similar, simultaneously delineating themselves from the extraneous. In this manner, spatial categories, the structures known as tissues, are formed among cellular populations. Within a single organism, all cells are genetically identical, and tissue differentiation is epigenetic, a consequence of the communication of cells.

In a sense, sign processes in cellular communication are quite limited. On the other hand, all organisms consist of nothing but cells, thus all life is cell-based.

As long as there is nothing but recognition, or iconicity, we can be confined only to vegetative semiosis, dealing with those sign processes that take place within the bodies of unicellular organisms, plants, and fungi, but also within animal bodies. Vegetative semiosis most likely covers the majority of intra-organismal sign processes, which Uexküll et al. (1993) have called *endosemiotic*. These processes are spatial, but they lack any sort of sense of space, direction, and distance. Even if the vegetative level includes movement, the orientation, nevertheless, consists only in contact-based qualitative distinctions, a movement “without a map”, or rather with a map without spatial dimensions.

The transition from the vegetative to the animate or animal semiosis seems to be abrupt—so abrupt that we can refer to it as a second semiotic threshold zone, the indexical one. An index is a sign that reflects the correlation between phenomena. Indexicality consists in interconnections, associations. Plants do not have associative memory. This probably requires a nervous system and the capacity for changing cellular relations based on experience, and the communication of one cell with multiple others that is common in neural tissues.

It is only with the capacity for forming associations (for associative learning) that there is any need for multicellular sense organs that can differentiate between directions. Movement organs also become expedient, in order to change the direction of movement. Animal semiosis allows for spatial recognition.¹⁷

¹⁵ This is one of the foundational claims of biosemiotics, elaborated by Hoffmeyer (1996, 2008a). The conditions of the lower semiotic threshold, or rather a threshold zone (Kull et al. 2009) has been thoroughly studied by Deacon (2011). See also Kauffman (2012).

¹⁶ In his treatment of the semiotic threshold, Eco (1979/1976, 1988) placed this boundary between stereochemistry and the world of meanings. Indeed, transcription amounts to a stereochemical copying, while translation is an entirely different sort of relationship, which is not physically determined; the same goes for the nucleotide sequence in DNA and RNAs as well.

¹⁷ On the topic of zoosemiotics, cf. Turovski (2001), Maran (2007).

The third semiotic threshold zone, the symbolic one, has been studied the most, since it is this that gives birth to language and the human being.¹⁸ A symbol is a sign that reflects what has been made to signify, and, thus, the replaceability of the signification. The specificity of symbolicity is the capacity for combination, interchange, and convention, or independent replacement.¹⁹ Infants develop this capacity around one year of age. From that moment onward, sentences can be formed, verbs can be distinguished from nouns; it can be decided freely what to use to signify whatever. Sebeok has claimed that only from that moment onwards there exist syntax and signs representing only the type of relationship (syncategorematic signs, such as conjunctives—“and”, “or”, “if”—that are entirely absent in animal semiosis). The capacity to replace and rearrange that symbolicity gives rise to, lays the foundation for the appearance of the temporal future—the imagination about several non-presences—and thus the sense of the flow of time.

Thus, in addition to the lower, primary semiotic threshold zone, which also indicates the line between the living and the nonliving, there exists another semiotic threshold zone between the vegetative and the animate, and the further one between the animate and the linguistic. The vegetative *umwelt* (the one of plants) includes neither time nor space; the animate *umwelt* (the one of animals) is spatial but atemporal (i.e. time is not separate from space; narrative structures are absent); the linguistic (human) *umwelt* includes as distinctions both time and space (thus also narratives).

The role of biosemiotics from the perspective of the humanities is undoubtedly the fact that it allows us to use the means derived from the humanities themselves to access nonlinguistic life. It allows us to overcome various biologisms, that is, to avoid the application of needlessly simplifying biological models (e.g. those called social Darwinism, sociobiology, memetics, evolutionary psychology, etc.), and to draw comparisons between humans and other living systems, between culture-made and life-made things, as well as make distinctions between different types (and levels) of sign processes.

Semiotics as a skill is the proficiency to translate between very different sign systems—there may be differences in media, cultures, or species, within which communication takes place and experience is carried forward. Biosemiotics attempts to translate those texts that have not been created by human culture. This includes interspecies translation, as well as the representation of nonverbal texts born in animal sign systems in the temporal human language (cf. Kull, Torop 2003). And what is even wilder—we can understand meaning even in *umwelten* that do not involve space, as it exists in the vegetative bodies of every organism, including our own. Semiotics (with its tools for understanding) gives us this hope.

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¹⁸ There can be more than three basic levels of learning mechanisms and accordingly of basic levels of semioses. For instance, between the indexical and symbolic, we have distinguished the emonic semiosis, which is characterised by imitative capacity or social learning and emotions. Emonic signs exist seemingly only in vertebrate animals.

¹⁹ The research conducted by Lev Vygotsky provides one source for the study of the symbolic threshold zone; the neurosemiotic foundation of this threshold zone has been described by Deacon (1997).

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Kalevi Kull is a professor of biosemiotics and head of the Department of Semiotics in the University of Tartu, Estonia. His research and publications deal with semiotic approach in biology, semiotic mechanisms of biodiversity, and theory and history of semiotics. He has edited the volume *Jakob von Uexküll: A Paradigm for Biology and Semiotics*, coedited (with Claus Emmeche) the book *Towards a Semiotic Biology: Life is the Action of Signs*, a.o. He is a book series coeditor (with Paul Copley) of *Semiotics, Communication, and Cognition* (De Gruyter Mouton), *Biosemiotics* (with Jesper Hoffmeyer and Alexei Sharov), and Tartu Semiotics Library, and a coeditor of the journal *Sign Systems Studies*.

Chapter 23

Oikos: The Sign of Nature

Gunta Mackars

I went to the woods because I wished to live deliberately, to front only the essential facts of life, and see if I could not learn what it had to teach, and not, when I came to die, discover that I had not lived. (went David Thoreau, Walden: Or, Life in the Woods)

I believe that in this period of globalization and connectivity and the technological flow of information, on virtually every level of experience—physico-psychic, socioeconomic, ideologico-political—we are at a critical decision-making point about the quality of life, land and health we are leaving to future generations. We can and have become wrapped up in any moment in time as being the most critical for a variety of reasons relating to sustainability and security of life. While each moment in time has its significance in an evolving world picture, we are also obliged to consider the world with its growth, complexities and changes and the reality when we are leaving 100 years from now.

It is tangible, emotional, gratifying and direct to assess and make decisions based on the now. These decisions support our roles and responsibilities at the moment and can be made in isolation of the longer-term ramifications. The world is undergoing changes based on decisions being made now that will forever alter the landscape and our sense of place within our home, our city, our land and our psyche. This process may seem straightforward based on current desires yet it can create a push/pull in our sense of somatic and psychic equilibrium (Freud 1950). A significant area of impact on our sense of balance is in our relationship with nature. Nature supports us mentally, physically and emotionally—it is the lifeline to our extended well-being, our health and our individual and collective personalities. We are part of nature and it is part of us. This is evident when we are present and attentive on the present.

G. Mackars (✉)
Stantec Consulting Ltd., Toronto, ON, Canada
e-mail: gmackars@yahoo.com

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From ancient times, humankind has been striving for a balance with nature, whether it be as hunter and gatherer or as a part of an urban community structure. There has been an innate and unconscious drive for balance, whether one lives in a city or in the country or somewhere in the spaces between. We strive to control nature, keep ourselves safe from it and view it as a commodity to be exploited for our purposes (see Derrida 1989). This significance and importance of nature to humankind has rarely deviated since the beginning of time. The biggest change and most dramatic impact on us has been in the scale of control over the environment which in turn impacts the importance and significance of this resource. In the past, the growth of cities involved access to nature and embraced nature as an amenity always ready at hand to be used for human development and consumption. Land was abundant. In recent history, modernization and industrialization have dramatically altered this relationship, and we are only now beginning to experience the outcomes and the disease resulting from our disassociation with the sign of nature as an elemental force of human life in itself, not as the barrier to progress that needs to be razed to construct an imaginary landscape devoid of anything 'natural'. (See Heidegger 1977). It is this human relationship to the 'sign of nature' that evokes thought.

Nature is an important building block in our waking and subconscious life and manifests its effects in the working out of our personalities. It is the pleasurable space for the self to find a sense of balance amongst the tensions of psychic energies and physical needs that permeate the human subconscious (Heidegger 1971). Nature creates a sense of place not only physically but also psychologically. In this discourse, the intent is to ask questions, develop an understanding and a way forward that supports our well-being, health and balance for humankind and for nature. This involves addressing the balance of urban density and open space, and making viable access to nature; assessing home and sense of place both socioculturally and within each person; and evaluating decisions that can be made now to support a long-term balance in the economy of nature that we live and exist in, within established places, as well as in emerging conditions around the world (Derrida 1974). The answer may be simple, yet the journey is affected by rational and nonrational factors. Nature throughout time has affected us on a daily basis in some way as human beings. It has provided light, food, respite and sustenance, and, when viewed as simply 'land' or 'property', reasons for war. We have worked with it and worked against it. We have valued it and stripped it of worth. Nature, in all of its roles and our perceptions, is a necessity for physical and spiritual survival. To render nature respect for the wealth it offers, as well as respect for ourselves as living and breathing entities, we can look at it in all of its forms and roles.

I believe that experiencing signs of nature in our daily lives provides sustenance for the foundations of everyday existence. We require nature to maintain a balance of spirit and ethos, yet nature does not require humankind to maintain its balance of chaos and order. Nature is in continuous movement, adapting to changes imposed on it by humankind, and to changes placed on it by the dynamics of the environment and ecosystems. Nothing is stagnant. We have an opportunity to enjoy the movement of this dynamic balance: As participants in a symbiotic relationship with nature, we are always already in a give-and-take that marks the evolution of what we need to keep 'living well' or as governors of an unwieldy realm, we have sought

to establish control and ownership over nature by applying the laws of science and technology to create a new world picture. In our role as governors, we have taken ownership of coastlines, lakes and mountains with a precise scientific rationalism. Yet, participation in these decisions of conservation and transformation is limited to a few decision makers. These decisions often benefit a few, and they do not honour the earth as *oikos*, the house of being (Toynbee 1959). *Oikos* is the sign of nature that empowers humanity. *Oikos* is a repositioning and reappropriation of nature in everyone's lives and psyches where we are active participants in an authentic economics and open ecology of a natural world.

23.1 Nature as Sublime

Nature can provide beauty and a sense of awe. It can offer a feeling of power and a sense of powerlessness. Everyone has their own perception and experience with nature. It can happen anywhere and at almost any time. It can occur in those moments of pause when we look and see and feel what is around us. Sometimes it is the vastness of the sky, the warmth and light of the sun, the ocean waves rolling on the shores, a branch breaking, picking a flower or the power of the wind. It can be terrifying, it can be calming and it can offer moments for reflection. It is when we come to terms with our humanity or the fleeting essence of our existence in time. We feel nature most deeply when we are placed in contrast with it. It can be a contrast in scale, it can be when moving from one kind of environment to another and it can be in movement. Nature as sublime can involve all of our rational senses, where nature can be deserving of fear, as well as our less-rational sense of perception—a transcendental or ecstatic experience that transcends the moment in our knowledge and understanding. I believe that nature as sublime is those moments when we experience stark contrast with the environment around us. We may feel at peace and at ease with nature yet nature is separate from us and we observe it. We may feel frightened by nature's power, depth and strength yet ironically those are the moments when we become undeniably part of nature. Nature draws us into its infinity and ethic. It is this privileged state with infinity where we feel equally connected and distant with nature. The sublime is both beautiful and terrifying. It awakens us either gently or starkly. This intangible and personal relationship where nature communicates with us is nature as sublime (see Kant 1951).

23.2 Nature as Standing Reserve

In modern times, nature is often referred to as a reserve or preserve. This re-labelling of 'nature' prevents nature from being its own entity. Nature is appropriated as a commodity that is to be preserved or maintained or reserved for future use, whenever, and however, that is determined by any group that presides over it at any one time in history. The terminology we use defines in our psyches, subconsciously

or consciously, our relationship with nature. The outcomes from this relationship reflect the ideology and needs of any moment in time, instead of allowing nature to be its own creator where we are the guests.

Nature always strives for balance. It is possible for development and the built environment to be balanced with nature. This happens when nature is nature and understood for its benefits. When nature takes a place in our psyches as a 'standing reserve', it becomes a technical commodity—something 'in reserve' is set aside to eventually come under scrutiny for exploitation. The word 'reserve' places nature 'ready at hand' as a 'gathered commodity' that is 'good for' something to be made from it and waiting for any human intervention when the time is right for advancement (see Heidegger 1977). As a reserve does nature belong to all citizens where parts of it remain with inhabitants for use, enjoyment and access by all or does it belong in reserve for the purposes, decision making and benefit of a few? The implications of the label of nature as 'reserve' can be profound for any interpretation of the essence of nature. Unwittingly, it can shift humankind's perception of nature where all of nature is 'on hold', ready and waiting for a technological transformation, till a random need or will determine nature's fate. If landscape and nature are to endure the 'advancements' and consequent wrath of humanity, exploitation and development and be a resource 100 years from now, it can be a legacy to the world and all generations to come. This shift of nature to 'reserve' commodity within the world intimates it as part of a global system of bartering—something that is negotiable. We are at a critical place and time where these fundamental yet groundbreaking and nature-shattering decisions are being made and acted upon. Even if we, at this time, decide to look at nature as standing in reserve for our purposes and financial benefits it will only take time for nature to strike its balance. We can work with it by striking a balance of conserving nature and landscape as we move forward or against it for the next generations until it more forcefully redirects us and itself again.

Nature always has time on its side. It will take the time it needs to continue to establish a balance. Humankind and generations that follow do not have this same luxury. Our definitions may support our purpose and perception at any one time; however, nature is on its own timeline and has patience for re-establishing its own balance—the law of nature. Nature continually acts to fix the imbalance we are imposing.

23.3 Nature as Park

Urbanization has been on an accelerated timeline particularly in emerging places. With countries and regions shedding the confines of isolation, they are embracing their perception of advancement which encompasses industrialization and urbanization that leads to an intrusion upon nature. We have witnessed examples of visionary thinking and decision making during times of change and advancement such as New York City legislators in the 1850s setting aside almost 800 acres in the heart of

a growing city for public parkland. Just as we are making accommodations for the transportation of information, goods and people to support globalization and world economies, we need to assess our needs for nature and begin making accommodations to maintain a balance similarly to the Central Park visionaries in New York City. Central Park brought 'nature' to the city—the picturesque idea of nature where nature is a natural setting. This romantic notion of nature contrasted the harsh realities of industrialization and urbanization, and there was recognition of the needs and benefits of a relationship with nature. This picturesque form of nature is designed and man-made, creating a natural-looking landscape. We can discuss whether parks are nature or natural; however, the human benefits of exposure to and immersion in these settings is revitalizing. As natural constructions of 'nature' they may, if left unmanaged, become natural again.

As the twentieth century progressed and evolved, the benefits of Central Park to Manhattan became evident and to this day it offers a respite for New Yorkers from the city. The size and scale of Central Park respond to the density of people present in Manhattan. It offers a broad range of places and spaces to address a wide range of needs. The scale of the park allows people to be in the park and yet feel like they are in the country. This reciprocal relationship of open space to density is critical. It allows visitors to see and experience the sky and sun, and to be removed from buildings. These experiences are even more evident in Manhattan since the height and density of buildings can prevent daylight and sunshine from meeting the pavement for more than a few minutes on any given day. Central Park in its scale and picturesque design provides a stark contrast to the sense of urban experience that is New York City. Central Park evolved as an amenity central to maintaining balanced lives in Manhattan. As a place surrounded by buildings, Central Park is a centre that is not a centre. The pastoral nature of Central Park nature is central to Manhattan and is a place with a strong identity; yet, at the same time, it decentres the city as a green void or opening. This ongoing centring and decentring between nature and the urban experience allows a fluid dynamic to be maintained between natural systems, people and the built forms of the city.

Bringing nature to people occurs in many forms from public parks to leftover or remnant areas of green in cities around the world. Historically, the need for a connection to nature and to one another has been recognized. In ancient times, it was in the Greek agora that people and communities gathered to obtain information, discuss politics, trade and be social within a public meeting place. As cities grew, gathering places and undeveloped natural areas were built upon, and access to open space was pushed further and further away from city centres. Over time gardens, and then parks, were introduced into the urban fabric to provide respite to urban dwellers. Formal gardens were a privilege for the wealthy and the elite in early times, with public gathering places, such as plazas and piazzas, for the majority of people living in the city. As cities grew during industrialization, parks were incorporated into neighbourhoods as an amenity for everyone to share. Parks and plazas offered a way of being with others in the world (Roszak et al. 1995).

Parks have, throughout time, been a way to bring nature and areas of respite to city dwellers. It is the attempt to address the double bind of the urban dwellers'

sense of dislocation and disconnection with the natural world, and urbanization which leads to sprawl when development takes over and pushes nature farther away from human consciousness.

23.4 Symbolic Value of Nature

The symbolic value of nature in our lives and consciousness continues to evolve in parallel with class and cultural values. This evolution is organic and responds to the events and priorities of the time. Our relationship with nature has shifted from being solely a resource and commodity that supports development and expansion of economies to something that needs to be preserved. The shift from exploitation to conservation has started. While it is still in conflict with immediate needs of a few where it is still viewed as a commodity, there is growing acknowledgement that it is a finite resource that needs protection. More and more, nature, as a resource, is being recognized as a finite economy.

Nature, like most things, continues to be codified in cultural terms. The cultural terms are dependent on economies, choices and perceptions. In current times, nature is labelled as ‘good’ in western consciousness. Nature requires respect, as it supports our health and wellness and, as a global resource, it deserves protection and rehabilitation. These notions and beliefs have re-evolved over a series of decades where there has been research and recognition about the detrimental effects of rampant growth on air quality, soils and water quality, diminishing and disappearing ecosystems and the ‘throw-away’ mentality in a disposable society where all things are replaceable. The goodness of things ‘natural’ and ‘from nature’ support good health, longevity and quality of life. In the first stage of cultural shifts, the ideology revolves around the ‘me’ and how the goodness of nature affects ‘me’; however, it is this logic that instantiates a first step in larger shifts to conservation and rehabilitation.

The ‘goodness’ and benefits of nature carries an abundance of cultural capital. We see fitness as a priority, weight loss as beneficial, eating ‘natural’ and organic foods as good as well as food supplies coming from healthy sources as important. We recognize the negative impacts on the environment of carbon dioxide emissions and the potentially life-threatening effects of the depletion of the ozone layer. The shift in consciousness of the deleterious effects on nature affect our way of thinking and the way we choose to live our lives—they impact us ideologically over time. Symbolically and practically this results in changes in lifestyle, changes in products we consume and changes in our valuation of nature.

The symbolic value of nature still resides primarily within our immediate context and immediate needs. The larger context is still removed and ephemeral. The deeper understanding of the context needed to sustain the cultural capital of nature, if it is deemed worthy of over time, is still elusive. There needs to be a shift in the cultural hegemony of perception and understanding of nature as a resource for human consumption and exploitation to a healthy end product looking forward to reconstitute a point of lost origin—after a fall from grace in the Garden of Eden, we are searching again for a lost innocence.

23.5 At ‘Home’ with Nature—The Human Spirit

To be at home, truly at home with oneself, with our higher self and our essential self requires stillness of mind. It is a going back to a deeper and innate place within ourselves—our ‘spirit’ self. Home is our place of refuge both physically and spiritually, a location without alienation. This can provide us with the balance from a world that over stimulates our thoughts and emotions. It is the stillness from wants, needs, cares and fears that places us in the larger framework of the world and our meditative self. With mindfulness practice, we can go home within our minds and bodies irrespective of the world around us. Nature can be a return to home for our spirit (Jung 1978). Being at home with nature can offer respite and sustenance. As urbanization disassociates us from nature and the natural world, this sense of home can seem more distant, removed and frightening. It becomes unfamiliar to our everyday experience. While we adapt both physically and psychologically to reduced space and disassociation with nature, this adaptation can impact our sense of home and spirit and make the experience of life uncanny. Somewhere, deep within ourselves, we recognize this imbalance and strive to reconnect with the natural environment (see Kaplan and Kaplan 1989). It can be as simple as a roof terrace where we can see the sky.

It is recognized in the design of the urban landscape that our connection with nature and our integration with it support healthier residents, communities and lifestyles (see Kaplan and Kaplan 2005). The shift is undeniable in community development—integration with the natural is an asset and benefit—people look for this when considering where to live. To be looking for a physical home and a home with nature is a human imperative for balance. This integration of nature within developed areas is the understanding of human need for health, wellness and survival.

To be at home with nature is uncanny—we are familiar with nature, yet it is foreign to us. The equilibrium between the conscious and the unconscious experience of nature is our barometer for balance. It creates a tension when it becomes too foreign and disassociated from our world. Just as nature is in constant movement to strive for balance, our inner barometer of balance is our guide for our human spirit (Carroll 2012). Are we at home with nature or at home in nature?

23.6 Nature and Our Sense of Self

As humans we have a psychic drive to nature. This drive may be conscious or unconscious and impacts our sense of self. Regardless of our subjective location, the psychic drive of nature seems to exist in every one of us and has for centuries. When we become too disconnected from nature for extended periods of time, we become out of balance. This need for balance is fulfilled around the world in different ways, and in ways that respond to each of our means. In many places, nature has been commodified to a luxury status, where escaping from the urban condition demands a high price—ownership of property of second homes outside the city and

memberships in sports clubs—and has created conditions that have rarefied access to nature in nature’s ‘untamed’ or pure form. The common element in these escapes is the desire for a connection with nature and reaffirming our sense of balance. This ‘call to nature’ can be fresh air, forests, oceans, the sky or sunshine—it is nature in all its forms. The degree of interaction with nature’s untamed side can be dependent on a variety of factors: an individual’s comfort level with risk, economic needs and level of exposure to nature’s will.

Globally, people have been seeking and accepting heightened representations of nature such as resorts and theme parks. The changing value of nature from experiencing nature for the sake of being in nature to a commodity where nature is a simulation or caricature of itself, results in people seeking an experience that seems more real than the reality of being in nature (Shahid Naeem 1999). The physical reality of nature is now mingling with or being exchanged with a virtual reality of nature where humankind seeks a more perfect reality or experience in nature. In locations where nature takes on a harsher reality such as desert environments, the oasis was a place of respite and source of life. As technology now brings water wherever it is needed, the ‘oasis’ can become an everyday experience as a representation of an oasis can be a reality in everyone’s backyard. In an attempt to attain a relationship with the ‘oasis’, a false reality of it is constructed and experienced as real (Baudrillard 1994). Our sense of self and well-being is achieved when we are balanced—we know this unconsciously, we look for it and, when possible we take steps to experience it. This balanced state allows us as individuals to function at our highest level, energizes our bodies, mind and spirit.

23.7 Urbanization, Re-urbanization and Nature in Balance

Cities and towns around the world are growing and becoming more dense as people move there from rural areas for work. Not only are cities urbanizing but also suburban areas—usually the bastion of a greener and pastoral existence—are now urbanizing. As urban ‘downtowns’ reach their peak of what their infrastructure can manage, the suburbs are becoming more dense and becoming new ‘downtowns’ on the outskirts of cities. Suburban sprawl is now true urban sprawl. As cities re-urbanize with densification and as suburbs urbanize, the pastoral openness and green spaces are disappearing and being replaced with parking lots and buildings.

Economics is the driver of densification and urban development since the presence of more residents and more businesses increase the tax base needed to financially sustain cities. The change in the suburbs that is taking place is not proportionately providing the needed open spaces and parks. Similarly, the densification in the downtown core around the world is not providing the proportionate amount of green space to the number of residents and workers for a balanced psyche. People are becoming more and more removed from nature. Urbanization promotes walking and bicycling and deters the use of the car where many downtown residents now do

not own a car limiting their ability to ‘drive out’ to nature. The means for escape to nature is determined by access to a car. Residents rely on the planning and building of healthy and balanced cities to maintain their balance. The re-localization of nature in an urban context needs to be addressed.

Instead of setting aside or acquiring lands to sustain the residents being drawn to cities and suburbs, most of the land is being developed and urbanized. This is our moment in time to be visionary like the legislators in New York City so long ago. When we consider the Hollywood vision of a future earth, it is characterized by darkness, dis-ease and no vegetation. To circumvent this kind of apocalyptic urban future, considerate steps can be taken now to leave a brighter tomorrow.

Nature is our unconscious warning system. Nature, by its actions, informs of balance or imbalance in the earth. The earth builds up energy and produces, at times, violent shifts to release this burden. Nature reacts no differently when the imbalance, usually created by man-made interventions (such as deforestation, urbanization, pollution), becomes too great. The impact of imbalance on people is no different. Imbalance shows up as depleting good health: the health of the earth and the health of its inhabitants both psychologically and physically (Freud 2001).

Maintaining the balance now and offering that balance to future generations can be our legacy. The Earth and earth have been giving us natural signs when and imbalance is building. While we cannot and will not stop progress and growth, we can approach it with more consideration to future generations. This can positively affect our psyches, their psyches and the DNA that is passed on from generation to generation. We know that all living and breathing things adapt to their environment over time. Nevertheless, the inherent need for and positive effects of our association with nature are known.

23.8 The Economics of Nature

Today, technological progress and acquiring things are seen as the solution as commodification and consumerism has become a belief system in attaining joy and a good life. Social advancement and acquiring ‘stuff’ have become our new areas of faith. This faith is expanding across the globe, being particularly evident in emerging countries as they become participants in the global economy. To maintain this faith, progress and expansion and constant material acquisitions are needed, which in turn impact nature. Nature is affected by the quality of air, amount of rainfall, expansion of cities, production of goods and food. No differently from the economics of currency transactions worldwide, nature too has become something to be traded which raises the question: who owns nature? Is nature a commodity to be bartered or does it belong to each and every one of us because it is needed for survival?

We have developed a push and pull relationship with nature. Nature in its essential form and offering has become invisible to us and the value of nature has also become invisible to us. When health and well-being are recognized as essential not only to our survival and sustenance but also to living life, the value of nature will come into view.

23.9 Nature as a Source of Sustenance

When nature is a source of sustenance it moves us from maintaining a balance to thriving. This is when nature's restorative qualities are experienced and when our experiences are in balance with experiencing nature. Experiencing nature means to connect with it. It is connectivity with nature that balances our physical environment and our beings. What offers the environment for connectivity? When nature is equally present physically or visually or it dominates in our surroundings connectivity becomes possible.

Ongoing sustenance comes from experiencing nature's process. Nature's process involves an ecosystem where biodiversity maintains a healthy balance. While providing tree-lined streets exposes us to nature and reminds of the benefits by softening our environment, true connectivity comes when nature's process and ecology are evident. Healthy biodiverse ecosystems rely on appropriate scale where the areas of humankind impact are either relatively light on the land or at the edges of ecosystems allowing the biodiversity to be sustained.

23.10 Moving Forward

Humankind's need for the attributes and benefits of nature is undeniable, for a chance at healthy mental and physical survival. We may always have our push-pull relationship with nature and within ourselves where we look for both control and respite. It is the shifting, and 'to-ing and fro-ing', that maintains a dynamic flow, which both nature and humankind need. However, if the imbalance becomes too extreme, we, as inhabitants of this natural world, will not have the last say. Nature, with its force and innate need for balance, will continue to always strive for balance. Our choice is how extreme we want the experience to be in nature's ongoing rebalancing and humankind's ongoing search for balance.

Nature has been appropriated to a large degree by a few, yet for our health and survival nature is essential for all of us. A shift in mindset and a reappropriation of nature as nature is needed in our lives and in our dwellings. Our degree of reappropriation in the next decades will inform our decisions, thoughts, actions and desires 100 years from now. Courage and vision are needed for humankind to step back, re-evaluate the big picture and the long-term view for nature in our rebalancing of nature and technology, so that the benefits of both can be enjoyed. A balanced landscape is spatial and not simply the presence of plants. Urban landscapes focus on the built form rather than spatial landscapes and the experience of a balanced landscape for people.

Nature is the essence of life and living. The effects of urbanization are showing us that a reintegration with nature in our belief system is vital to attaining joy and life. Not everyone experiences each building; however, everyone has the opportunity to experience the outdoors and streets. Nature is humankind's shelter from

dis-ease, wherever we are in the world, just as buildings shelter us from the elements. Nature represents life—and, therefore, is not something to be exchanged. Economy is shifting back to the laws of nature where nature is reappropriated as a noneconomic entity. We are slowly being shown that there appears to be a correlation between the principles of the ‘laws of nature’ and the principles of the ‘laws of the human spirit’. Both will seek to find their balance.

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Gunta Mackars is a registered landscape architect with 29 years of experience in landscape architecture, urban design, planning, design for sustainability and land entitlement. She has lived and worked in Canada, Dubai and Southern California exposing her to a broad range of views, attitudes and experiences. She has lead design teams on a variety of projects within Canada and the USA, and abroad in the Middle East, Europe, China and Southeast Asia. Gunta leads the Landscape Architecture group in the Greater Toronto Area for Stantec Consulting Ltd., a multidisciplinary design firm that includes architecture, landscape architecture, engineering and environmental sustainability. Her role as a designer and team leader focuses on quality, ensuring a high quality of

design, and integration, where design strengthens the relationship between the architecture, the landscape and the human experience. Through responsiveness to the site, relationships with the landscape are developed in an integrated way supporting a strong and unified sense of place. She is currently involved in numerous healthcare projects, where she is developing an integrated design approach that incorporates nature with patient healing and rehabilitation, and staff health. Gunta is focused on bringing nature and the landscape into visibility in design, and in our everyday experience, as a way to leave a more balanced and healthier legacy for future generations.

Chapter 24

Waves of Semiosis. Is It about Time? On the Semiotic Anthropology of Change

Ryo Morimoto

*And once the storm is over you won't remember how you made it through, how you managed to survive. You won't even be sure, in fact, whether the storm is really over. But one thing is certain. When you come out of the storm you won't be the same person who walked in. (Haruki Murakami, *Kafka on the Shore*)*

*Like everyone who possesses something precious in order to know what would happen if he ceased for a moment to possess it, he had detached the precious object from his mind, leaving, as he thought, everything else in the same state as when it was there. But the absence of one part from a whole is not only that, it is not simply a partial lack, it is a derangement of all the other parts, a new state which it was impossible to foresee in the old. (Marcel Proust, *Swann's Way*)*

Owing to its dual theoretical foundation of Saussurean semiology and Peircean semiotics (Mertz 2007; Parmentier 1994, 2006a), the task of semiotic anthropology has been to integrate, or to provide theoretical continuity between the two distinct poles or temporal “extases” (Heidegger 1996[1953]), namely between the pole of presupposed code structures and the pole of the interplay of indexical signs in the “real-time” flow of social life. Although Parmentier argues that these two approaches should be complementary (2006a, p. 2, 1994, pp. xiii–xv), there has not been a clear-cut integration of the ubiquitous presence of iconic and indexical linkages (Saussure’s motivated *symbole*) and the dual essence of the “relatively arbitrary” *signe* (Peircean symbol) on the plane of change. In other words, the dilemma for a semiotic anthropologist is to strike the right balance between, on the one hand, the system that encapsulates the stable codes on the basis of which present perceptions are rendered meaningful, and on the other, the praxis that projects plasticity of the present *qua* past events via mediations of an interpreter that is in the constant physical, a cultural flow of time. Therefore, the theoretical concern is the gap between

R. Morimoto (✉)
Brandeis University, MA, USA
e-mail: ryo@brandeis.edu

the Saussurean rigidity of “change of system” and Peircean vicissitudes of “change in system” (Parmentier 2006b, p. 1, emphasis added) and the role culture plays in it.

Genealogies of the marriage between semiotics and anthropology are extensive and complex, but they are essential in order to underscore the way this relationship has opened a space for anthropological discourses of the “real-time”¹ flow of social life, especially regarding the bidirectionality of indexicals (e.g., Parmentier 1994, 1997, 2006a, 2009; Silverstein 1976; Singer 1984). In this chapter, I explore multiple “dimensions of semiosis” (Parmentier, personal communication, 05-16–2012), as they are exemplified in the process of memorialization in the postdisaster context in Japan, vis-à-vis the layers of temporalities condensed in *hic et nunc* of “real time.” By considering cultural complexities (Parmentier 2009) as well as multiple temporalities—contextual, textual, code, and cultural time (Parmentier 2007, p. 274), I demonstrate how the ethnographic study of rapidly changing societies offers deeper theoretical insights into the synthesis of temporal extases with dimensions of semiosis. I question what precondition or sets of preconditions allow for indexicals (the signs with which ethnographers are particularly concerned) to appear to be simultaneously presupposing and creative.

Furthermore, I ask how change seems to be simultaneously an event or a series of events that calls for substitution of the preexisting code structures with another (cf. Mukařovský 1979) and displacement of the preexisting web of significations by a creative reclassification *not* of cultural categories, but of values within the system. I argue that a Peircean conceptualization of the index’s “dependence” (CP 3.422) on both the past (icons) and the future (symbols)² informs its peculiar “real-time” signification of becoming *meaning-full through*, and that such processes can be ethnographically observed in contexts of sudden change, especially in the sociocultural processes of memorization. I suggest that a semiotically informed investigation of a struggle of interpretative grounds in the midst of sudden change (where the previous presuppositions become futile) allows social scientists to examine semiosis in its representational and determinative axes as it proliferates, is blocked, and/or is manipulated in becoming meaningful through multiple temporalities condensed in “real time.” Thus, any semiotic anthropological analysis of change has to take into account the past, present, and future in continuum—though not necessarily in a linear order—in understanding a semiosis of, in and *through* society.

The distinction between the presupposing and creative poles of indexicals (Silverstein 1976, pp. 33–34) in semiotic anthropology is diagrammatic to its double theoretical underpinnings. The Saussurean synchronic model of language assumes systematic coherence, though arbitrary organization, of the *langue* instead of its use (*parole*) as well as speech’s referential anchoring, modifications and alternations in

¹ Following Mertz (2007), Greenhouse (1996), and Husserl (1964), I put the real time in quotations precisely in order to deconstruct its theoretical nuances.

² Peirce makes a temporal characterization of his Sign-to-Object trichotomy: “An icon has such being as belongs to past experience. It exists only as an image in the mind. An index has the being of present experience. The being of a symbol consists in the real fact that something surely will be experienced if certain conditions be satisfied” (CP 4:447).

shifting sociocultural contexts. Any change in the latter, according to Saussure, is only analogical; a chain of substitutions is contiguous with and presupposes the pre-existing system (1966, pp. 161–172). The analytical vector, therefore, is to secure the stability of codes configured by sets of differences, generating values. Lévi-Strauss, quoting Jakobson’s phonological theory, puts it accordingly:

For it is only on condition that we recognize that language, like any other social institution, presupposes mental functions which operate at the unconscious level, that we can hope to reach, beyond the continuity of the phenomena, the discontinuity by those “principles by which language is organized.” (1978, p. xix)

Although we observe tendencies against the movement from continuity to discontinuity, structurally speaking, Lévi-Strauss’ argument is architectonic of the later development in semiotic anthropology, centered around a set or sets of mediations through which the discontinuity is ironed out as (i.e., motivated by) the continuity. In other words, signs in society are neither arbitrary nor neutral (cf. Lambek 1996, p. 240) in that the plausible account of what happened is always already re-presented, in the sense of Boasian secondary elaborations. Therefore, in order to understand the present, “we have to know not only what it is, but also how it came into being” (Boas 1936, p. 137).

In contrast to Lévi-Straussian structuralism, the Peircean dynamic/diachronic model of signs presupposes and projects a movement towards the future, concerned as it is with the continuous growth of the symbol (CP 2.302) and exacting of the mind to the reality outside of the former. Silverstein posits thus, “[c]ulture is, with the exception of a small part of language, but a congeries of iconic-indexical systems of meaningfulness of behavior” (1976, p. 54). Specifically, Silverstein’s argument is that “language is social action” (Parmentier 1997, p. 16) in which the type (synchronic system or generality) is always already embedded in context-specific pragmatic behavior, and becomes salient only through “real-time” token instantiations. This pragmatic turn is itself pragmatic since “we can never directly observe a linguistic system or non-linguistic code, only the flow of discourse or the particular material instantiations of general regularities” (Parmentier 1997, p. 17).

Marshall Sahlins makes a bold attempt to bridge the gap between the Saussurean synchronic and Peircean dynamic models with his historical ethnography of Polynesian cultures. Taking advantage of the structural completeness of the Saussurean system, Sahlins argues that an introduction of an extrinsic valuable (his specific case being the voyage of Captain Cook as a cross-cultural encounter) to the system accentuates the metasemiotic awareness of the people about the system. Put differently, social actions or reactions necessitated by the introduction of “novelty” in the system calls upon the awareness of preexisting (although binary for Sahlins) sets of cultural categories and their functional reevaluation, without metapragmatic awareness of their reactions: “No longer a disembodied or virtual semiotic system, meaning is now in contact with the original human powers of its creation. In action signs are subsumed in various logical operations, such as metaphor and analogy, intensional and extensional redefinitions, specializations of meaning or generalization, displacements or substitutions, not to neglect creative ‘misunderstandings’” (Sahlins 1985, p. 151).

Thus, for Sahlins, there is an inverse relationship between the etic and emic understanding of change. For the analyst, according to Sahlins, every reaction is *de jure* performative, in that “change *of* system” appears as “change *in* system”—a displacement via veering off of signification, or presupposition of analogical change, which is entexualized by the actors *as* a historical reproduction (1985, p. 180). For example, Captain Cook’s arrival in 1779, though unprecedented, was incorporated into and made familiar by the preexisting practices associated with the Makahiki celebration, vis-à-vis interpretation of resemblances as well as contiguities between Cook and Lono *as* symbolic through ritualized performance, thereby maintaining “substantial continuity and regularity of the celebrations” (1996, p. 27). This observation resonates with Jakobson’s model of communication, in which “[m]eaning can be excluded only when one works from the position of the decoder, since for him [or her] meaning emerges only as a conclusion, whereas for the speaker meaning is primary” (1985, p. 32). Accordingly, change is understood as the performative/reactive rearrangement of combinations and selections of cultural categories upon an introduction of an extrinsic valuable, worked through in the reevaluation of values (or interpretants) associated with them (cf. Jakobson 2002[1956], pp. 72–76). Only when Sahlins observes a set of performances seemingly delimited by and delimiting of the latent code structures is he able to induce meaning from the uncovered code structures or history. Social reaction, motivated by an eventuated recollection of history, generates a chain of interpretants outwardly, producing progressively *historical beings* with enhanced common memory (cf. Sahlins 1999, p. 415).

From this perspective, culture is both historical and structural, “constituted by real powers and their concrete interests” and “revealed in the systematicity of diachronic processes” (Parmentier 1987, p. 127) respectively. Sahlins illustrates that the absence of the “real-time” flow of speech events (a set of historically motivated practices) stand as semiotic objects for the analyst, where “cultural claims are indexes of more basic structuring codes, modes of order that are themselves largely imperceptible yet make all the difference between peoples who are perceptibly similar” (1999, p. 413). However, in later work, he proposes that such modes of order or history are a set of conditions for making the history-makers, thereby securing the space of agency in structure (2004, pp. 155–166).

Taking both Silverstein’s linguistic model and Sahlins’ structural historical insights, Parmentier engages with a more fine-tuned form of semiotic anthropology. In his fieldwork in Palau, Parmentier identifies the local semiotic object or cultural shifter/“indexical-icon” (Silverstein 1976; Tambiah 1985), *olangch*, “permanent signs that are present evidence of a significant past, but having been created in certain contexts in the past they continue to undergo strategic manipulation in the present” (2006a, p. 14). In addition, he identifies four diagrammatic icons of “path,” “cornerposts,” “side,” and “larger/smaller” as recurrent themes in narrative tropes, instantiated in “real time,” about the history of the society (1987).

Putting the two together analytically in his model, (*olangch* vis-à-vis narrative tropes is the icon of icons) the possibility of the “real-time” narrative deployment of indexical orders semiotically “rhematizes” (Irvine 2004, p. 108), or “natural-

izes” (Barthes 1972) and ethnosemiotically iconizes³ the present with the history to which the present is being projected.⁴ In other words, through reading an indexical relationship as iconic in “real-time” instantiations of narratives, the people of Palau, especially higher ranking chiefs, seem to determine the iconicity between the past and present so as to project it onto the future. Lambek observes a similar semiotic anchoring of the past in society as correlative of difference in rankings among Sakalava of north-west Madagascar, noting that “[c]hange is often legitimated for Sakalava by explaining it to royal ancestors and acquiring their acquiescence and comprehension” (2011, p. 206). Therefore, the “action in the present is sanctified by the past” (p. 207).

Parmentier’s contribution to the development of semiotic anthropology is that—through the analysis of the/a bidirectional nonlinguistic shifter, *olangch*, as a prolegomenon of the present time narrative tropes—he anchors semiosis in “real time,” which is part and parcel of the manifestation not only of multifunctionality of the signs but also of the multiple temporalities for which the signs in society stand. In its very capacity as a Peircean “zero sign” (i.e., unlimited possibility (cf. Peirce 2.217)) of the culture and a dicent sinsign in culture, *olangch* is both the “signs of history,” and “signs in history” (1985b, p. 134; 1987): “*olangch* look in these two directions, toward the typifying role of schemata and toward the sedimenting role of practice” (1987, p. 308). Signs in society are thus multimodal and “polysemic” (Daniel 1984, p. 39) as well as mutitemporal. For Parmentier, narrative is in “dynamic synchrony” (Jakobson and Waugh 2002[1979], pp. 168–176; Jakobson 1985, p. 30) much like verse, described by Jakobson as that which “involves the immediate sensation of present time as well as a backward glance at the impulse of the preceding verses and a vivid anticipation of the verses to follow” (Jakobson and Pomorska 1985, p. 23).

Arguing contra Sahlins on the creative potentials inherent “in” society and culture as semiosis (1991), Parmentier’s ethnographic monograph is entitled “the sacred remains,” positing that “[t]he present is indexically ‘charged’ with the aura, patina, sedimented value of the distanced past only to the extent that the representational plane is not subordinated to the interactive plane” (2007, p. 276). Paraphrasing Peirce’s motto of Pragmaticism, Parmentier’s understanding of Palauan culture can be characterized as the set of social activities that aim to make their cultural “beliefs represent the realities” (MS 379). Therefore, the conceptualization of historical

³ Although Irvine modified the term iconization to rhematization in her later work (2004) to be more semiotically sound, I am deploying the term “iconize” here to emphasize a potential differential awareness between the analyst and informants as well as between informants. Semiotically, rhematization suggests a shift of the interpretative ground, that is, the reappraisal of an indexical connection as an iconic relationship where contiguity between a sign and object is read as a resemblance in essence between the two. By “iconize,” I mean to signify a taken-for-granted state as opposed to a relatively conscious essentializing process.

⁴ In this particular regard, it is interesting to note that Parmentier cautions against the utility of strict Peircean semiotics in cultural analyses since culture, by definition, is to “upshift” (1994, p. 19). The difference between the upshifting and downshifting of semiotic grounds is perhaps accounted for by the differential position between observers and actors. According to Parmentier: “conventions as present agreements are seen as wholly arbitrary constructs, but conventions as historically transmitted formulas are taken as naturalized truths” (1994, p. 179).

markers (signs of history) as a Peircean zero sign opens up a space for different levels of semiotic awareness among Palauan people in deconstructing the sources of where their cultural beliefs come that Parmentier traces in the past (historicity) referred in the present.

In my previous work, I argued that because of the asymmetrical awareness of codes in society, the “real-time” indexicals, both the presupposing and creative kinds, become the loci of a struggle of interpretants, especially in sudden change (Morimoto 2012). Unlike situations studied by previous scholars in the field, disaster or sudden change “...exposes the way in which people construct or ‘frame’ their peril (including the denial of it), the way they perceive their environment and their subsistence, and the ways they invent explanation, constitute their morality, and project their continuity and promise into the future” (Oliver-Smith and Hoffman 2002, p. 6). Sudden change accentuates the presuppositions in society in the present context, where such earlier chain of presuppositions has proven to be futile. For instance, Kai Erikson’s work on the Buffalo Creek flood suggests a sense of “cultural disorientation,” in which the previous truth in the world gets shattered among the victims (1976). I aim to contribute to semiotic anthropology, the “real-time” significations of indexicals in particular, by investigating semiosis in sudden change, which, so far, has been under-theorized. A long-term ethnography of the post 3.11 disaster contexts in Japan will provide a powerful empirical case in testing the characteristics and roles of indexical signs in sustaining cultural continuity despite sudden change, since in a state of crisis, what is exposed is not the meanings of historical contingency but of the semiotic “ground” (Parmentier 1994, p. 28)⁵ and its plasticity in the act of recollecting.

For example, Button observes in post-disaster contexts that people seek to “make sense of the event” and to “assign meaning, blame, and responsibility and develop coping strategies” (2010, p. 11), though this is accompanied by extreme skepticism, especially when invisible contamination is at stake (Edelstein 2004; Erikson 1994). Semiotically, Parmentier suggests that “the non-experience of sudden change in terms of the opposition between a general overabundance of evidence indexing the event, which generates an *excess* of signs, and the incapacity of people to form representations or expressions of the event, an outcome that leads to an *absence* of signs” (Parmentier 2012, p. 236, emphasis in original). Disaster disequilibrates the organization of signs in society. In sudden change, change thus manifests as a series of upshiftings of the semiotic “ground,” wherein memory (icons) as a warrant for the “ground” becomes the site of contestation (Terdiman 1993). In this sense, sudden change begets a struggle between representation and determination *ex post facto* of the very experience that was “de-scribed” (Blanchot 1995, p. 6) or “not known in the first instance” (Caruth 1996, p. 4). Therefore, semiosis involves not only representations, instantiations of preexisting codes, and their communication but also entexualizations, modifications, and manipulations of consciously and often hegemonically selected sets of memories that sustain the semiotic generality and

⁵ “The ground is some respect, character, reason, or quality that brings the sign into connection with its object” (Parmentier 1994, p. 28).

regularity in society. I will provide a few examples from my preliminary fieldwork in the post 3.11 triple disasters in Japan.

Less than 2 months after the devastating disasters on March 11th in Japan, the Sankei newspaper released a picture book entitled *Fighting Japan* (2011), which filled in the missing pieces of information regarding what had “really” happened on that day and on. The chronological tables from March 11th to April 10th that serve as the main argument of the book are juxtaposed with many dramatic pictures in the background. In the tables, as time progresses forward to the contemporary moment, the descriptions of events become more and more sparse. Upon closer analysis, the whole representation reveals itself as subject to “structural compression” where “it is the event, by the changes it effects, that brings time past and greater social order to bear...” (Sahlins 2004, p. 132). But as the picture book describes it, in the process of compression, many memories of the event—not to mention the suffering of the victims, damaged bodies being brought to temporary morgues (Ishii 2011)—were excluded, blocked, and taken away from one’s cognition. Taken away by whom?

The *tsunami* took away many things from people, but from what remained, *people* selected. For example, In Kamaishi, Iwate, I met an elderly victim who was determined to remember what she could experience. She told me that she began writing a diary on March 11th. “I need to write down everything,” she explained to me, “otherwise, I forget. Huge numbers of bureaucratic paperwork, visitors such as government officials, news crews and volunteers, and offers for events and charities—how can I remember it all?” With her permission, I examined her diary. On March 11th: no entries at all. On the 13th, one line: fear of another tsunami due to incessant aftershocks. On the 15th, more lines: concerns for her relatives living in another city, descriptions of the first visit made to her residence by a city personnel. On July 11th, the day before my visit, she wrote an elaborate entry, in which she recorded what was said in the news, which part of her house needed work, conversations she had had with friends and family, and in which she mused on the prospect of young volunteers coming to clean her house the next day—what color eye shadow she should wear for the occasion, etc. The things described in her diary are events that her cognition was able to register. Her memory, it seems, emerged as she began to reestablish her social relations.

In this, her personal diary entries stand contrary to the Sankei newspaper’s public representation of structural compression. For her, the very details of the conjunctural moment are missing. Upon asking her how she remembered the day of the disasters, she lamented “it was so crazy and I don’t really get my head around to it...too many things happened, and we don’t talk about it here.” This was indeed the most common response I received from the victims. However, those who did not suffer directly from the disasters but had access to public discourse on the matter “remembered” more and claimed to know more about what had happened. Aleida Assmann characterizes this phenomenon succinctly: “[i]n order to remember anything, one has to forget” (Assmann 2011). This contrast between public discourse on the events, and private, personal accounts suggests four points: (1) a sheer excess of information and the absence of mnemonic techniques can make us forget, resulting in both the failure of cognition and memory as well as of sociocultural pro-

cesses; (2) remembering and forgetting are in a dialectic relationship to one another (Nora 1989); (3) Sahlins' model of structural compression describes not individual cognition, but rather sociocultural processes of collective recognition; and (4) sociocultural processes of memory and forgetting or remembering are greater than the sum of all individual remembering and forgetting. To summarize, memory expands within social relations (Antze 2011; Papoulias 2011) as social relations provide a particular set of mnemonics for remembering some and forgetting others. We co-memorize in order to remember (Halbwachs 1992).

Commemoration is a concerted, selective, and repetitive act of remembering that establishes social relations beyond the spatiotemporal limitation of each individual. It facilitates individuals to "imagine community" and reflect on the common identity of collectives (Anderson 1991). Schattschneider (2009) argues—via a discussion of the Yasukuni Shrine in Tokyo, Japan (one of the most important imperial shrines dedicated to the soldiers and people who fought and died for the Emperor of Japan in wartime)—that a community can be reimagined through a creative negotiation between individual and collective or private and public for memorialization (*kuyō*), where individual sense of loss and collective glorification of the military war dead "marry" together with the mediation of a culturally charged symbolic object, the bride doll. This dialectic of collective and individual memorialization simultaneously venerates individual dead souls and demarcates Yasukuni as a "peaceful land," protected from those sacrificed in WWII. This dialectic is made possible through a sociocultural reorientation of cognition/memory from the loss to a collection of losses via the displacement of mnemonics (from fascism to the "beautiful" youth) mediated by the bridal dolls (314), whose semiotic familiarity regulates the stability of meanings in society. Butler as well alludes to the significance of this recognition of loss: "Loss becomes condition and necessity for a certain sense of community, where community does not overcome the loss, where community *cannot* overcome the loss without losing the very sense of itself as a community" (Butler 2003, p. 468, emphasis in original). To translate Schattschneider and Butler's understanding of commemoration into Saussurean terminology, the past (cognition/memory) is organized as a paradigmatic set of combinations/substitutions which is translated in the present (recognition) as a syntagmatic set of selections/displacements. Thus, to re-present is to differentiate, that is, to recognize is to translate formal resemblances into a flow of contiguity differentiated in time.

Another act of commemoration exemplifies this point, as well as the way in which commemoration is socioculturally motivated. Hiro Saito (2006) discusses extensively the continuous memorialization of the A-bomb victims in Japan. He argues that a historical trauma urges both the individual and the collective to actively seek solutions in the future by modifying, altering, and regenerating its mnemonic reference and thus the meaning attributed to the original traumatic event (cf. Hung 1991). In this particular commemoration, the trope of victimhood is evident (Fassin and Rechtman 2009). Individuals who directly suffered and died from the bombs are internalized. Japan as a whole, then, becomes the victim of war. The status of trauma serves as a legitimate title to establish a new national identity through the country's clear condemnation of any nuclear weapons (Saito 2006). Therefore,

trauma is not a static indication that refers to a finished event but a set of ongoing social, cultural, political activities and intergenerational struggles through which its connotation change (cf. Halbwachs 1992). Interestingly, then, the scant public discourse tracing an association between Hiroshima and Nagasaki and Fukushima that has followed the 2011 nuclear disaster at the Fukushima Daiichi plant seems quite counterintuitive. There is, despite this public silence, another side to this memory.

In their two-part article published only in English, Tanaka and Kuznick (Tanaka and Kuznick 2011) discuss the concealed history behind nuclear energy in Japan. They reveal that nuclear energy was brought by then-US President Eisenhower's political campaign called "The peaceful use of nuclear energy" or "Atoms for Peace," the goal of which was to build Japan's first nuclear power plant in Hiroshima. A series of traveling exhibitions, sponsored by both the national and local government of Japan, followed to support the campaign in many cities in Japan (Hiroshima and Nagasaki included).

This campaign led to a softening of the opinions of antinuclear personnel, including many A-bomb survivors. As Tanaka concludes, "[t]his explains why A-bomb victim organizations, such as Nippon Hidankyo, still maintain silence concerning the fatal accident at the Fukushima No.1 Nuclear Power Plant, and why none of the post-war mayors of Hiroshima have ever publicly criticized nuclear power" (Tanaka and Kuznick 2011, p. 4). This is not to say that antinuclear activists and victims have softened their opinions because the connection between the two events has failed to register. Rather, as Tanaka claims, it is that many A-bomb survivors still believe that "the campaign against the use of nuclear weapons must continue" (6), while at the same time, socioculturally, as Kuznick states, "[w]anting their country to be a modern scientific-industrial power and knowing Japan lacked energy resources" (7). The public, therefore, "allowed itself to be convinced that nuclear power was safe and clean. It had forgotten the lessons of Hiroshima and Nagasaki" (7).

This forgetting is further forgotten by repetitive commemoration of the A-bomb victims, which in turn has been continuously allowing Japan to forget its own war crimes prior to the A-bomb: various occupations, and the inhumane treatments of war hostages in China and Korea, about which Japan has been consistently silent. A faltering in the remembrance of the war prior to the A-bomb is not a failure of cognition *per se*. Instead, Japan's A-bomb commemoration is a socioculturally motivated mnemonic that generates a syntagmatically skewed flow of interpretants. While cognition duly registered information, memory was formed with myriad thoughts and feelings flowing through numerous events. Sociocultural processes, however, turned these thoughts/feelings/memories into the wind⁶ by only selecting preferentially what was deemed to be memorable and meaningful (cf. Rawlands 2001). In the A-bomb memorial in Hiroshima, the *lieux de mémoire*, or site of memory (Nora 1989), has become the building that withstood the impact of the bomb, not the "human residue" of more than a 1000 cans of ashes of the victims of the atomic bomb, uncannily sleeping in the Mound, which remain mostly unnoticed (Mitchell

⁶ In Japanese, the expression "fūka," or turning into the wind, signifies "to be forgotten."

2011). In short, the human suffering has been displaced through memorization—ab-cognized.⁷ Contrary to Nora’s organic argument that authentic remembering is carried “in the body’s inherent self-knowledge, in unstudied reflexes and ingrained memories” (cited in Frow 1997, p. 222), the case of A-bomb memorialization emphasizes that remembering or forgetting does not recognize itself: it is fueled with mnemonics, the sociocultural processes that grease cognition’s palms, as it were.

My theoretical move from history to memory illustrated in the above case studies is analogical. Lotman and others posit that “[i]f we regard the collective as a more complexly organized individual, culture may be understood by analogy with the individual mechanism of memory as a . . . collective mechanism for storage and processing information” (1973, p. 73). The move allows me to conceptualize society (memory) as composed of individuals (memories), where memories are by default dissociated and scattered without the presence of memory. The whole (memory) is greater than the sum of its parts (memories) in a sense that the former has the power to frame the semiosis of the latter (cf. Halbwachs 1992). However, just like the Silversteinian conceptualization of language (1976), memory is only observable in memories as its token instantiations in the particular sociocultural context in “real time.” Hence, any study of memory has to give equal analytical importance to both collective and individual memory, that is, to memory as well as memories.

Either in the collective or the individual, memory, strictly speaking, is never presupposed; it is always already represented. A memory is a potential, a precondition, and it is rife with what Peirce describes as *firstness*; a memory of a past event as it is re-presented in the ever-fleeting present is “never out of time and never morally or pragmatically neutral” (Lambek 1996, p. 240). In addition, as it refers to the past that is already gone as “the past which has already passed,” memory is subjected to various types of “semiotic mediation” (Parmentier 1985a, pp. 376–379) in which “the referents of memory are always absent” (Terdiman 1993, p. 8). Memory can thus be not only represented but also *determined*. In this, the semiotically informed ethnographic questions become: “what aspect of the event is to be remembered, which image(s) comes to be highlighted, when does the interpretative ground become anchored symbolically, and who regulates and regulates the multiple degrees of semiosis?” (Morimoto 2012, p. 267). By shifting the analytical attention from history to memory, equipped with insight from Ricoeur and Freud, we can begin to add some depth and breadth to “real time.”

The underlying theme in major works of both Ricoeur and Freud is repetition. In his article, “Narrative Time,” Ricoeur elaborates the Heideggerian concept of repetition and states that narrative enables one to read:

the end in the beginning and the beginning in the end, we learn also to read time itself backward, as the recapitulating of the initial conditions of a course of action in its terminal consequences. In this way, a plot establishes human action not only within time . . . but within memory. Memory, accordingly, *repeats* the course of events according to an order that is the counterpart of time as ‘stretching along’ between a beginning and an end. (Ricoeur 1980, p. 180, emphasis in original)

⁷ I use the word ab-cognize to suggest the purposive abduction of the possibility and/or ability of the people to cognize.

Ricoeur's insight here highlights that indexical signs are never simply in "real time," but that they anchor an interpretant syntagmatically unfolding in ever-escaping physical time: "narrative shows how concern 'interprets itself' in the saying 'now'" (177). Therefore, the "bidirectionality" of indexicals actually proceeds without a break; the pole of presupposing code structures precedes the indexical projection towards the future, or towards a pole of creation in the moment of reckoning the "now."

This is exemplified in Japan, where after the 3.11 Tohoku disasters, the failure of modern technology to counter both the earthquake and tsunami was offset by the conscious recollection of the historical layers of past natural disasters in the further distanced past than previously sought (Normile 2011). This backwardness in time appears to correlate with the projection of the memories of the event farther into the future in a manner that could not have been presupposed from any preexisting contextual realities. For instance, the emerging development of new technology to visualize as well as neutralize radiations, the proposed development of an improved forecast system to predict and accurately warn one of future earthquakes and tsunamis, or some memorial project aiming to preserve the memories for 1000 years into the future. In this sense, the "real-time" flow of social life is "real" precisely because indexicals by nature stand for neither the presupposing code structures nor creative potentials but for a past–present–future continuum as "real time." In order to model this, there needs to be an analytical construct, "signs *through* history," or indexicals that stand nonlinearly or multilinearly in a sideways alphabet J-like shape, if you will, in which the depth of the past they point to corresponds to the breadth of the future they project; indexicals become meaning-full through their myelinations (punctuated activations) in multiple temporalities.

This projection for the future through repetition of the sedimented past in the present becomes most salient in the time of sudden change, where what has been presupposed "then" no longer becomes a secure ground and thus calls for a bidirectional, wave-like movement of deepening of time and a resulting expansion of time. Semiotically speaking, the upshifting of signs and their acquisition of regimenting power in tandem follows from an initial downshifting. Rhetorically, for example, a weak argument cannot be reconstructed without working backward (downshifting) from changing terms to reform propositions in order to come up with a new refined argument. Therefore, sudden change uncovers a buried "institutional regimentation" that stipulates the interpretative ground of signs as well as "ideological regimentation" that naturalizes an ethnosemiotic theory of semiosis (Parmentier 1994, p. 128) by posing challenges to the already established semiotic arguments at the level of terms, or rhemes. In the complex sociocultural processes of memorization, the "shaking grounds" (Morimoto 2012) of the multiple dimensions of semiosis—(1) representation; (2) codification; (3) communication; (4) inscription/entextualization; (5) interpretation; and (6) regimentation (Parmentier, personal communication, 16 May 2012)—need to be empirically studied in their "real-time" instantiations—indexicals—in society.

I would like to conclude my discussion with Ricoeur's provocative question: "And is not repetition itself a kind of resurrection of the dead...?" (Ricoeur 1980,

p. 190). This predicament resonates with the Freudian notion of the “repetition compulsion” followed by trauma (Freud 1958[1914]): an important theme repeats. Furthermore, as Sebeok (1985) adds, redundancy aids cognition and memory as a means of securing the remembering of anything in the future. Repetition and redundancy, therefore, are what need to be scrutinized.

Upon sudden change, a society and/or individuals go through a set of remembrances. A failure to represent what has happened in language. That is, a failure to “oppose the force of *matter* with *words*” (Terdiman 2010, p. 103; “The Real” see Lacan 2006[1966]), or provide meaning to the event⁸⁷ leads to repression, rendering the individual “obliged to repeat the repressed material as a contemporary experience, instead of...remembering it as something belonging to the past” (Freud 1961[1920], p. 18). It appears thus that trauma splits past from present and future, in which case to cope is to act *as if* they are in continuity (Schattschneider 2001, 2003).

Schattschneider’s ethnography (2003) tells stories about healing in which traumatized women engage in the ascetic labor, and where, in this particular context, labor can be understood as “the means of its own reproduction” (Arendt 1958, p. 88). The “real-time” mirroring, as a form of embodying/iconizing “the sacred remains” or “immortal wishes,” instantiates its intrinsic healing power in the creation of new and different questions (230). Such a practice is repeatedly observed in Japan, where traditionally, people equate gods with nature, and many landscapes are places occupied and protected by different gods. Immediately after the disasters, people reflected upon their current disavowal of nature and the forgetting of its sublime power and reevaluated the omnipresence of divinities, as it were, to be in touch with their origin. For example, the now-shattered forest of pines trees, originally planned to buffer tsunami in Rikuzen Takata, Iwate has now been transformed into Buddha statues, talismans, omamori (charms) that simultaneously iconize and index the divine presence in life and the devastation incurred by nature as memory tokens of future challenges for the country.

Similar reactions are observed in the great Lisbon earthquake of 1755, upon which Voltaire and Rousseau exchanged letters. Voltaire’s rejection of the divine Providence (1905; the previous presupposition) was answered by Rousseau, who affirmed the Providence and then suggested moving forward from the event by arguing for human responsibility in the disaster and thus the need for social scientific endeavors (2007[1756]) (the creative movement toward the development of social science). In this particular understanding, representation takes a form of “working through” (1958[1914]) toward the past, through the present and back to the future. Transformation and accumulation, the two modes of Kuhnian change (1996), are but two sides of the same coin. From the perspective of the past, change is transformative; from the perspective of the future, it is accumulative. In the present, change is a palimpsesting of memories out of preexisting cultural pockets.

⁸ Friedlander expresses the futility of representing trauma via his discussion/treatise of the Holocaust accordingly: “For almost 50 years now, despite so much additional factual knowledge, we have faced surplus meaning or blankness with little interpretive or representational advance” (1993, p. 130).

Therefore, the limits of awareness and inherent biases toward presuppositions over creations by the native informants about their own behaviors, observed by Silverstein (1981), Parmentier (2002, 2006a), and Bourdieu (1990, p. 86), are justifiable in that the informants presuppose first in order to create. “Presumption is the only kind of reasoning which supplies new ideas, the only kind which is, in this sense, synthetic” (CP 2.776–777). In fact, I argue, these limits should be taken as the sign, for ethnographers of “real-time” indexicals, since they inform the dialectic of the two vectors of Peircean semiosis: representation and determination. In this sense, the fundamental principle of existentialism prevails for anthropologists in fieldwork: existence (a set of indexes) precedes essence (a set of icons; Heidegger 1996[1953]; Sartre 1984[1943]) and becomes condensed, Peirce would add, into law (a set of symbols) through multiple dimensions of semiosis. In this sense, “between history and memory,” to dissolve Nora’s famous dichotomy (1989), there are ongoing translations of/interactions between the two, thereby making the distinction ever more elusive. A semiotic anthropological mediation would be to introduce the third variable, culture, that which motivates the transparency between the two, thereby condensing the dual signification of memory/history into a part of preexisting generality.

Over the course of decades, semiotic anthropology, by its keen attention to the complexity of indexicals, has recognized the bidirectionality and plasticity of indexicals in standing simultaneously for the seemingly opposing poles between the typifying code structures and sedimenting practice. I argued, first presupposing and then creating a new argument, that it is “about time” to interrogate the depth of the “real-time” flow of social life where memories of collective, individual, and/or cultural kinds (Assmann 2011) are always already lurking beneath the “real-time” flow of social life as potentialities. Terdiman puts it succinctly: “Memory is how the mind *knows* time and registers change” (2011, p. 108, emphasis in original). However, as the ethnographic case example of the 3.11 disasters in Japan informs that “[m]emory is *too much*” (Terdiman 2011, p. 199, emphasis in original), and cognition is too innocuous in that it is always already re-presented, framed/coded, communicated, inscribed, interpreted, and regimented in its semiosis.

If I take semiosis—the continuity of sign processes—to be the principle of culture, then change becomes most salient where there is no change. Persistence of a past as *the unintegrated past in the present*—the uncanny (Freud 2003); change or “shock” (CP 1.336) produces asymmetry between the verisimilitude of memory and memories of an event by blocking a certain flow of semiosis in favor of the continuity between the past, present, and future continuum. Resistance to a shock, an “effort-opposing change” (CP 1.336), is the empire of signs where culture reigns (Morimoto 2012). Therefore, the ethnographic study of societies undergoing rapid social change and of traumatic rupture of their assumptive worlds (Erikson 1972; Hastrup 2010, 2011; Parkes 1971) offers a vista into a prolegomenon of sociocultural continuity, and how signs in society are rendered meaningful not only through their patterned communications in the representational axis but also through semiotically condensed patternings of remembering and forgetting along the determinative axis. A site of memory for anthropology, then, is the site where remembering

and forgetting crisscross with socioculturally motivated mnemonics/memorization. Following Parmentier on the difference between Peirce's philosophical approach and anthropology for which "'truth' is the premise rather than the conclusion of discourse" (1994, p. xiv), I argue contra Peirce's antipsychologism (CP 2.39–43, *Essential Peirce* 1998, pp. 242–257) that semiotics must take psychology into account in order to gain full apperception of the role of culture—the making of socio-cultural continuity in its resistance to change its habitual truth claims.

In this chapter, I suggested that a semiotic distinction can be drawn between the past (icon), present (index), and future (symbol) in society where the past is a paradigmatic set of substitutions (change of system) and the future is a condensed set of values and habits (change in system) selectively instantiated in the present as a syntagmatic set of displacements (change through system). A post-disaster context exposes the "deep social grammar" (Oliver-Smith and Hoffman 2002, p. 10) of society, both in that "... there is something in suddenness itself that uniquely reveals underlying social regularities (or irregularities)" (Parmentier 2006b, p. 1), and in that it provides an empirical case in which semiosis repeats its continuity via the re-figuration of signs in "real time." If there is to be a genre called the anthropology of disaster, its fundamental task must be that of remembering various sites of struggle between representations and determinations of memories. Gable and Handler put it aptly: "Memory is what we can recover in order to give voice to...the silenced" (2000, p. 250; cf. Assmann 1997). Japan is still in the midst of a mourning process, and thus is the most acute site to observe regularities or irregularities in the transition from cognition, to recognition, to socioculturally processed memories, and to those phenomena that will come to repeat themselves. Cousin's poignant point underscores my position:

In a way the object must die twice, first at the moment of its own death and secondly through the subject's unhitching from its own identification. It is only then that the object can pass into history and that the stones can be set—for mourning and memorial are a phase apart. (1996, p. 41)

We are, regardless of cultural categories and corresponding trajectories of indexicals, "historical beings," in that every creative action presupposes a set of previous creations: "history repeats action in the figure of the memorable" (Ricoeur 1980, p. 187). My creative aim of semiotic anthropology then, presupposing thus far accumulated knowledge from other scholars, is to inquire into multifunctional, multitemporal and multimodal motivations of semiosis in recollections, selections, exclusions and erasures: the "becoming" of the memorable.

What can we do to reinforce our ability to remember? Umberto Eco suggests one path: "a semiotics is by definition a device that stalls natural processes of oblivion" (1988, p. 260). Semiosis is the sign of repetition re-presented in time and made meaningful through depth and breadth of time; where there is discontinuity, there is change. The wave of semiosis repeatedly goes from remembering to forgetting and vice versa.

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Ryo Morimoto, is a PhD candidate in Anthropology at Brandeis University <ryo@brandeis.edu>. His research interests include semiotic anthropology, anthropology of disaster, post-disaster trauma and social/cultural changes, and memory. His publications include *Shaking Grounds, Unearthing Palimpsests: Semiotic Anthropology of Disaster* (*Semiotica* 2012, 192:263–274), and *Message without a Coda: On Rhetoric of the Photographic Records* (*Sings and Society*, 2014, 2(2): 284–313).

Chapter 25

Embodied Signs: Expanding Representations Through and with Bodies

Beth Lewis Samuelson and Karen E. Wohlwend

This chapter highlights the emerging research on literacy and embodiment, suggesting that a semiotic perspective is urgently needed to understand how embodiment blurs binaries such as language and action or text and context through (1) representations of bodies and (2) representations with bodies. We draw on this view of embodiment to expand the definition of text, critical for understanding signs that are increasingly produced within collaborative and immersive interactions with global scapes that are both material and textual (Appadurai 1996). Such text/context blurrings are situated in social practices and fluid contexts such as transnational literacy flows and play worlds. This notion of embodiment has long been present in semiotics, but is now emerging as a powerful lens to advance literacy studies. Although it is possible to look at multimodal texts of all sorts, including texts of body, the embodiment of meaning through representations of the body and representations through the body is often just a potentiality or a possibility, a data source that is available for selection, whereas we see it as central to the enterprise. Embodied meaning is a rich source for semiotic analysis drawn from historical, sociocultural, and cognitive perspectives on bodily practice in daily life and daily learning, and through children's play.

25.1 Representation Through Bodies

Historically, embodiment has been a silent partner in semiotics, for instance, it was present in the abstract notions of frame (Goffman 1981) and of participation frameworks (Gumperz 1982), but with the rough edges of the particulars smoothed away

B. L. Samuelson (✉) · K. E. Wohlwend
Indiana University Bloomington, Bloomington, IN, USA
e-mail: blsamuel@indiana.edu

K. E. Wohlwend
e-mail: kwohlwen@indiana.edu

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for the sake of getting to object to be studied: the interaction. Bourdieu considered language to be a whole body activity: “Language is a body technique” (1991, p. 86), and he inscribed the body into semiotics through his notion of *habitus*, which he fixed in the body, intimately connecting the body-as-text to the social and cultural fields in which it was formed. In a less-direct way, Bakhtin (1986) also laid a framework for embodiment when he turned his back on the idea that poetic language is by and large a formal system, and a special one at that. By asserting that genres are grounded in the social practices of production and reception, Bakhtin gave them a commonplace aspect, as everyday as the body, and showed that they are dependent on and embodied by concrete works. We can think of concrete works as actual language or literacy events, and much productive work has been achieved by this perspective. What is more concrete than the material world, including the bodies, and representations of bodies, that are so critical for all communicative activity?

Linguistic anthropology has long recognized the critical importance of the body-as-text. The study of indexicals in ethnography of communication (Hymes 1995) provides as a means of teasing out the “habituation of perspectives” that forms Bourdieu’s notion of the *habitus*. Deictics such as I, you, we, they, here, there are “inherently relational,” giving a concrete aspect to critical concepts such as inclusion, exclusion, proximity, and distance to objects and other persons (Hanks 1996, p. 162). Deictics are connected to the bodies of the actors and change their meaning with each token, like facets in a diamond turning in the sunlight, such that bodily hexis, orientation in space and time, direction of gaze, physical attributes such as age and height, particularities of dialect and idiolect, and myriad other aspects of the physical presence of the actors can be recorded by studying the orientation of each indexical, as it is made concrete, “always a matter of the relation between the utterance, the situation in which it is produced, and the object being talked about” (p. 162). Hanks adopted an apt grammatical metaphor for describing the embodied nature of communicative practice when he asserted that “context saturates linguistic form, right down to the semantic bones” (Hanks 1996, p. 142). The importance of the embodied emerges also in ventriloquation, which shows how students and teachers use indexicals in reported speech to mitigate uncomfortable situations in which student texts must be publicly critiqued; the indexicals project distance and allow the actors to take on imagined roles (Samuelson 2009). Indexicals provide a window through which the investigator can follow the gaze of the actor, to see that mediated world as the actor sees it.

From cognitive linguistics, the details of mundane bodily existence yield critical insights into the emergence of semiosis. The small stories of “events in space” (Turner 1996, p. 13) that humans execute daily—a child pointing to a favorite toy, a man pouring a cup of coffee, a woman petting a dog—are overlooked precisely because they are so commonplace, and yet they form the basis of predictability that allows meaning-making to occur. In second language studies, language-learning memoirs in which students employ physical metaphors and imagery, linking emotions, feelings, dispositions, connections to environment, and to the storying self, suggest that learning a language is just as much a physical as an intellectual experience (Kramsch 2009), an “impulse” and “drive” for physical, social, and emotional

balance rather than the pragmatic considerations of career advancement, integration into a new community, or even identifying with speakers of the language or their beliefs. The desire to learn to speak another language, Kramsch asserts, is not:

just a matter of interacting with the Other. It is rather, an appropriateness or coordination of bodies with themselves and their environment, language learners with themselves and the foreign language, non-native speakers with other non-native and with native speakers, teachers with their students. Appropriateness here is not just an adherence to pragmatic or social norms, but a deep coordination of body and mind, self and other. A better term might be relationality or synchronicity, in which the organism feels in sync with itself, its language, its environment and others. (p. 75–76)

In a transnational storytelling exchange, representations of the body through depictions of violence and death have elicited visceral reactions in the bodies of undergraduate women whose habitus did not permit the inclusion of such content matter in stories for children, suggesting that the taboo and the unmentionable topic are also embedded in body, inscribed into the habitus through interactions with field over time (Samuelson, in preparation).

25.2 Play: Representation with Bodies

In literacy studies, Siegel and Rowe (2011) draw upon the Peircian notion of indexicality to explain how meanings expand when enplaced and embodied by people in a concrete setting such as a classroom. Using the example of a kindergartner holding a book upside down, they show how the child's handling of the book, "What Can Go Up?" re-mediated the text through manual repositioning of the book in physical space; that is, the reader used his body in the immediate space to reverse the sign, transforming the text into a pretend book "What Can Go Down?" Siegel and Rowe argue that this action text extends beyond interaction with fixed material or linguistic properties of the printed book. Instead, such events enmesh texts in contexts as textual performances (assemblages of linguistic, visual, kinesthetic, and musical signs), discursive acts (practicing fluent reading of "just right" books with partners), and temporal (during readers' workshop) and spatial settings (in the block corner).

Representations with bodies engage production of played texts in contexts by emphasizing particular modal meanings through changes in body movements, postures, facial expressions, and proximity to co-players, furniture, props, and toys. In this way, even very young children's play creates complex embodied signs and action texts, not to compensate for their emergent language or to craft a polished text (Boldt 2006) but because they intend to produce engaging texts and rich play worlds to inhabit with others. Furthermore, bodies in/as texts/context take on additional layers in digital domains as meanings shift through virtual proximity among avatars, arrangement of layouts, and movement across screens and networks (Jones 2005).

New Literacy Studies (Gee 1996; Street 1995) recognize play as embodied ways of producing and wielding texts. Playing a text (Mackey 2007) is not a stance outside a text but embodies it from within the text itself. Importantly, play also creates

and upholds a collaboratively pretend context with others. In this view, play is a social practice that uses bodies to represent meanings but also to participate in valued cultural practices (Ghisso 2011; Siegel et al. 2008; Wohlwend 2008).

Play is a particularly powerful means of sign-making that invites players to use bodies as the medium for conveying play narratives, imagined characters, in an imagined context through semiosis that merges with physical place and social relationships. New technologies and digital literacies have drawn our attention to the ways that play challenges structured notions of signified/signifier relationships around representations of body:

Semiotics provides a method for studying how digital literacies make possible new ways of interacting with written signs. This form of meaning-making pivots on the player's ability to "be a representation" by projecting herself or himself sensorially into a game character, setting a new kind of stage for meaning-making. While reading and writing mediated by such technologies as cave painting, books, and billboards require a person to orient to the sign as a *signifier*, digital technologies have the unique affordance of enabling a person to orient to the sign as *both signifier and signified*. Within video games, for example, the reader becomes or inhabits a symbol, enabling him or her to interact with signs *as if* they are the very things they represent. (Steinkuehler et al.2005)

These *as if* conditions are a staple of play, whether digital or liveaction. During pretense, the sign-maker is simultaneously creating and enacting a played self-sign while producing actions in a played text and inhabiting a played context. Even very young children understand the sign-making potentials of toys and their own positioning as both players and pretend characters. In part, this is because toys are designed to clearly signal how they should be used in play (Brougère 2006). For example, dolls are identity texts (Carrington 2003) that signal both pretend characters (babies, princesses) and doll players (preschoolers, girls). In a 3-year ethnographic study of play in early childhood classrooms, Wohlwend examined how kindergartners played with toys and dolls as they wrote, and rewrote familiar Disney Princess fairy tales to craft more agentic storylines and roles such as a princess who saved herself and fought off the dragon (Wohlwend 2011b).

Mediated discourse theory (Scollon 2001), a blend of practice theory (Bourdieu 1977) and cultural-historical activity theory (Engeström1987; Leont'ev1977; Vygotsky1935/1978), is useful for examining embodiment in the fluid, inventive, and collaborative nature of pretend texts and shared meanings that children produce and negotiate when they play together. The emphasis in this approach is on meanings created through physical actions with material artifacts and multiple modes as indicators of historical practices and ideological discourses. Research using methods of nexus analysis (Scollon and Scollon 2004; Wohlwend 2011b) and multimodal mapping (Wohlwend 2011a) enables microanalysis of key modes (e.g., image, gaze, sound effect, proximity, layout) in the layered action texts and contexts (e.g., doll or avatar characteristics, production histories, marketing strategies, peer culture capital) that signaled particular player or character identities in media, peer, and school cultures. Using nexus analysis, Wohlwend examined how two 6-year-old boys blurred the gendered identities and discourses attached to Disney Princess dolls and films by pivoting among available identity texts in Disney Princess media products, including princess characters, body images, brand identity, peer relations,

and school expectations (Wohlwend 2012). Mediated discourse analysis examined how boys blurred gender identity texts to engage their favorite princess media, to recruit other boys as players, and to participate as writers and players in the kindergarten classroom.

In addition to expanding identity texts, play merges here-and-now realities in a physical place with an imagined place, opening more possibilities for story actions and roles. Further, pretend contexts in childhood cultures are simultaneously local and global. Children's popular media fantasy worlds often come furnished with film narratives, video game storylines, and casts of characters, circulated through transmedia franchises of toys, clothing, food, and household goods that children consume daily. These franchises form pervasive artifactual networks, linked by narratives which children use as semiotic resources. For example, Marsh (2005) documented one preschool child's narrative web for Disney's *Winnie the Pooh* franchise that included stuffed toys, Duplo playsets, pajamas, lunchboxes, and books. The storied products anchored parent-child rituals such as bedtime routines that provided emotional security as well as literacy resources. Children's deep emotional attachments to characters in these franchises constitute an important element of embodiment as children enact favorite characters through proxies by animating dolls, action figures, and toys to replay and revoice familiar scripts.

When children play together, the embodied texts that children enact are collaboratively created and maintained (Göncü and Kessler 1988) with roles authorized by the group of players. Play actions are made meaningful through interactions when other players recognize them, prompting response from tacit scripts that are sensible to co-players. In this way, the agreed-upon text/context builds upon players' shared meanings; however, play actions that are incongruous with familiar characters or scripts can shift or rupture the context, bringing play to a halt. These breakdowns are catalysts for negotiations and improvised solutions (Sawyer 1997). Improvisation is a creative response to reconcile conflicting identity expectations among cultural contexts (Holland et al. 1998). Thus, play worlds are fueled by cycles of collaboration, negotiation, and improvisation, enabling children to contest and problem-solve as they make decisions on how to enact otherwise automatic and invisible practices while striving to keep play going and to sustain social relationships with peers.

When children play together, they assign, negotiate, and maintain symbolic pretended meanings for objects consistent with the imagined setting. Through improvisation, children test the limits of an object's typical meanings to see how it might be repurposed to represent another idea. If a desired toy is not immediately available, a player can improvise with materials at hand. Players are driven by the intended purpose for a play prop but also consider the iconicity of its physical properties. In one kindergarten play center, a child used a plastic toy carrot as a cell phone because it was small, narrow, and could be handheld. However, the roundness of a plastic apple or orange limits its usefulness as a sign for a phone (Wohlwend 2009). Important to our argument here, the embodied sign created by the physical action of holding an object next to an ear was instrumental in transforming the meaning of the toy carrot to a pretend phone. Children emphasize particular aspects of materials in their *motivated* signs (Hodge and Kress 1988), choosing materials for their

sensory qualities to effectively represent their intended meanings and carry out their social purposes. Through play, children learn to detach the conventional meaning attached to a concrete object in the immediate context and reattach a new meaning better suited to their play scenario (Vygotsky 1935/1978). Even very young children access and combine modes and materials into complex semiotic aggregates that enrich and expand meanings but also facilitate considerable social work in the peer culture of the classroom.

25.3 Future Directions

Our orientation toward embodiment suggests that novelty and reconfiguration are central to the enterprise, not peripheral. We see novelty and reconfiguration in the play of children and in pedagogical practices that encourage students to create multimodal productions, to write, act, design, dance, and draw. We see it as well in the transnational travel of unfamiliar and uncomfortable semiosis as students across the globe find new ways to communicate with each other. However, while the appeal of creativity is inherent in the idea of redesign of available designs (New London Group 1996) or of genres as social practices that can be mastered and put to use for social and political purposes (Kress 1993), we are not embarking on a critical social project designed to train the habitus of less-privileged students to better match the fields of power and the production of cultural, social, and symbolic capital. Following Luke (1997), we recognize that a pedagogic project focused on habitus, hexis, and the embodiment of communication, so suggestive of emotions, imagination, sensuous and aesthetic, and their connections to more “academic” matters such as cognition and logic, risks going astray unless approached with the utmost theoretical and practical clarity.

Despite this caveat, the study of semiotic embodiment has rich theoretical implications, not only for play and transnational communication but also for the study of hybrid and distance education, both assiduously promoted for reasons of cost-savings and access with little theoretical clarity as to the long-term impact of new ways of forming linguistic or academic habitus, and other forms of digital networking that mediate and represent the body in new ways, adding another layer on the diachronic axis of common discourses and genres as they change and adapt to new available designs.

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Beth Lewis Samuelson is an assistant professor of literacy, culture, and language education (LCLE) at the Indiana University School of Education, where she teaches classes in literacy theory and in the English-as-a-second language and World Languages teacher education programs. She is an educational linguist with a strong background in language learning and cross-cultural experience in non-Western contexts. In 2006–2008, she was a Spencer/National Academy of Education Postdoctoral Fellow and a finalist in the 2006 National Council of Teachers of English Promising Researcher award. From 2008 to 2011, she was the faculty advisor to the Books & Beyond project, a cocurricular service-learning project by the Global Village Living-Learning Center that supports storytelling and book publishing by elementary and middle school students in the USA and Rwanda. Her research interests include language awareness and the flows of English literacy practices across global boundaries. She has interests particularly in understanding the nature of meta-knowledge about language and the role that it plays in critical literacy and language learning.

Karen E. Wohlwend is an assistant professor in literacy, culture, and language education at Indiana University. She reconceptualizes play as a literacy that critically engages the identity texts in toys and games and that expands ways to create meaning and to participate in school. Her publications include a forthcoming book, *Literacy Playshop: Playing with New Literacies and Popular Media in the Early Childhood Classroom* and a recent book, *Playing Their Way into Literacies: Reading, Writing, and Belonging in the Early Childhood Classroom*. Her current research critically examines young children's play with toys, filmmaking, and digital technologies in online and classroom spaces.

Chapter 26

Face as a Sign and Paolo Mantegazza's Theory of Metoposcopy

Anna Makolkin

*I saw his heart on his face
William Shakespeare*

26.1 Face Before Mantegazza: A Natural and Cultural Sign

Face is the best example of a sign that serves as bridge between nature and culture: Being a part of a living human body, it is a *natural sign* while serving as a *cultural sign* as well. Facial expressions, features, colours and shapes naturally signify important information to humans. Prior to listening and speaking, one sees and studies the face of the interlocutor, starting to interpret its multiple meanings from the perspective of one's particular sociocultural code or *idioculture* while creating one's own special model of face interpretation. However, there are some obvious biological or natural characteristics or the primary uniform features, transcending cultural traditions or idioculture. Nature, in this respect, often dictates to culture—a single mode of “face reading”.

As a *natural sign*, face is either young or old, male or female, healthy or unhealthy. Age, gender and medical condition are the *universal meanings of the face-sign*, unaffected by such additional signifiers as racial diversity or decorum, guided by a particular cultural convention. A wrinkled, yellowish face, a sign of old age, the most *feared sign* and the object of human paranoia, a projection of our decaying body, a sign of time, a visual clock, reminding the perceiver, the observer about the short duration of life in general and the fall of the other. We daily read faces, consciously or subconsciously, with or without any purpose. Human face is one of the most vital natural signs, the *omnipresent visual sign* that exercises an enormous control over our feelings, thoughts, and behaviour. Faces often enchant, please, comfort, arouse love, rage, compassion, hatred, frighten, intimidate, fool

A. Makolkin (✉)
University of Toronto, Toronto, ON, Canada
e-mail: anna.makolkin@utoronto.ca

and deceive. Children's faces never leave one indifferent, they are the most *transparent signs*, the term coined already by Aristotle in his *Physiognomonics* (1984, pp. 1237–1250). These faces cannot yet lie since a child, who cannot yet speak, is not able to mask and control emotions, nor send conflicting messages to the care giver. His/her face is a message communicating particular needs. A 3-month-old baby already not only signifies with one's own face a particular message but is also capable of reading the faces of others, responding with a smile to a smiling face or crying to an unpleasant face. The first mirror is the smiling face of an observer, signifying a semiotic process, a possibility of a face to the face nonverbal dialogue. Prior to the invention of the mirror and discovery of the facial self, the face of the other, facing the "I" served as a proto-mirror. "Eye to eye ball", "face to face" are the metaphors, the linguistic traces, preserving the memory of the visual encounter and its significance, recreating the drama of the most natural *semiotic act*—seeing and perceiving the "other" through the face. "Eyes are mirrors of the soul", records this archetypal proverb the actual focus of the observer during the process of interpretation of the face of the other. "Faces say more than words", "written on their faces"—these archetypal utterances display again the process of perception, the *architectonics of seeing*. "Seeing is believing", we still frequently hear even in our logos-oriented culture, again reminded of the greater role of seeing as opposite to saying, prevalence of the visual image over the verbal one.

Young baby face, a *transparent sign*, faithfully recording the mood, emotional state and desire of a young human being, has a particular universal appeal not only due to its transparency but also due to the *pre-eminence* of the *aesthetic function* (I. Mukarovsky 1978, p. 70). It possesses the aesthetic function due to the particular visual aspects, such as round shape, smooth skin (baby skin), rosy colour (baby cheeks) of cheeks and lips. Brows and nose are less distinct in a baby face than in an older face. Eyes usually reflect the exact emotional state, be it anger, want, contentment, hunger, plea for food, or desire of attention. Tears and quite distinct cry easily mediate change in the mood and emotional state. Roundness, softness, smoothness and freshness of a pink colour universally and invariably evoke similar perception of warmth, beauty and serenity.

A disturbed, suffering and ailing baby's face may turn pale greenish or blue, thus losing its aesthetic appeal, acquiring an important new *qualisign* that, which Peirce identified as a sign of a particular quality, signifies changes in age, emotion and health (1932, vol. II, p. 147). People suffering from anaemia are never rose-cheeked, they are greenish or of earth-like colour. All discolourations, such as age spots, brown pigmentation or pink acne (plague of teenage faces) signify a definite *biological metamorphosis* of an entire human body, and face mirrors and signifies these changes. An attentive physician may interpret them either as normal signification of the *biosemiosis* or a *pathosemiosis*, such as cancer. Ancient physicians who did not have many sophisticated means of diagnostics and cure at their disposal relied extensively on the semiotic interpretation of the face signs, symptoms (Greek: *symptóma*) of a disorder in the otherwise orderly *biosignification*. Good nutrition, sufficient exposure to fresh air and water and good health secure unchangeable face colouration, but the hazards of modern living seldom spare human face. When we complement one another in our daily casual, "You look so well", we actually com-

municate to the observed face: "I see your healthy colour" or "Your face tells me that you are in good health". Our social conventions prevent us from saying it, but it is the underlying message. These casual remarks are the results of spontaneous brief "face analysis" or semiotic interpretations of the face-sign. The reaction of the observer to the sign, in this case, is of fundamental psychological significance, it plays a mirror role. "If I am seen as healthy, perhaps, I am still". To be seen and perceived as young, healthy and beautiful is not only the desire of North Americans but also the *universal cultural sign*, the symptom of eternal human anxiety and paranoia.

Round shape is the most naturally accepted shape, the symbol of equilibrium and perfection. Baby face is usually round, with age, some faces lose their roundness and acquire the genetically chosen shapes: oval, triangular, narrow or square. Weakened face muscles contribute to the changed shape, elongation or widening of a face. Neurotic and insecure individuals go to a great length to preserve the youthful shape of a face, trying to change the programmed course of *biosemiosis*. They never succeed at it, but merely create a *false sign* over what Aristotle defined as a *true sign*. Face-lifts confuse the observer; make-up is similarly a device, masking the true semiosis, creating a visual image of a desired face-sign. It creates the additional stages in the interpretation—the unseen, under the layers of make-up, is behind the intended image, partly seen and not seen, while the actual new visual image is that which is seen. Masks of the primitive tribes and their decorated, painted or mutilated faces had been the early precursors of the modern chemical face metamorphosis, perfected by the later industrial and developing societies.

26.2 Aristotle on the Face-Sign

Human eye—the indispensable instrument in the visual semiosis—is the precondition of seeing signs. At the same time, eye is also an important *universal natural sign*—all flying, swimming and crawling creatures have eyes and all see. An eye or ability to see is the most common sign produced by nature. In turn, eye is a producer and perceiver of other signs, a mirror of the world and signifier of the inner human self. "Eyes: mirror of the soul"—this archetypal concept, known to nearly all cultural traditions, captures one of the earliest processes of the analysis of nature's code. Eye is a *permanent bodily sign*, as Aristotle claimed in his *Physiognomonics*, and a most easily interpreted sign. Looking into one's eye and seeing what was behind it—the most ancient and elementary semiotic process of decoding. Numerous mythical interpretations of eye as a sign of mental character or emotional state are immortalized in the archetypal similes, such as "eyes of a hawk", "eyes of a lion", "eyes of a fox", known to be the permanent motifs of fairytales, myths, heroic biographies, historical accounts, journalistic reports, novels, sonnets and poems, and immortalized in portraits, sculptures and later photos.

Ancient Greeks were already critical of such method of interpreting signs through comparison with animals, even though they already found such method unreliable. *Physiognomonics*, this ancient treatise on face and body as signs, allegedly authored by Aristotle, contains some criticism of the interpretation of human faces in terms of

animal faces, regarding it as somewhat naive. The ancient treatise offers a more advanced explanation of the bodily parts as signs not in the light of the animal world, i.e. nature, but within the conventions of culture and Aristotle's own philosophical and medical knowledge. According to him, or through the lenses of his culture:

gleamy eyes stand for courage
 blinking eyes—for cowardice
 pale and vacant eyes—for dullness of senses
 wide-open eyes—for impudence
 drooping eyes—"may signify softness and effeminacy as well as dejection and low spirits
 snarling grin—surliness (irritability)
 small, lustrous, lewd eyes—signify slyness and lasciviousness
 small eyes also stand for small-mindedness as well as impropriety.

Such an interpretation of the *biosignification* is clearly divided along the lines of nature and culture. Paradigm, some of it, such as shape and colour and expression of the eye-sign, relates to the semiotic field of nature or man's encounter with nature, while others, such as propriety or surliness, are clearly from the domain of the *reinvented semiosphere*, i.e. culture. Aristotle further states:

Small eyes mean a small soul, by congruity and on the evidence of the ape; large eyes, lethargy, as in cattle. In a man of good natural parts, therefore, the eyes will be neither large nor small. Hollow eyes mean villainy, as in the ape; protruding eyes, imbecility, by congruity and as in the ass. The eyes, therefore, must neither recede nor protrude; an intermediate position is best. When the eyes are slightly deepset, they signify a proud soul, as in lions; and when a little deeper still, gentleness, as in cattle. (1984, vol. 1, pp. 1246–1247)

"Small eyes = small soul" implies interpretation based on *size*, while some rely on the comparisons with animals, something which would inspire Charles Peirce millennia later to define as "natural or *indexical signs*, serving as intermediary between nature and culture" (1932, vol. II, p. 147). Eyes are also divided by colour. Aristotle proclaims:

If the eyes are too black, they signify cowardice, for we saw above that is the signification of too black a hue; if they are too black, but inclining to chestnut, they indicate a bold spirit. Grey or white eyes indicate cowardice for we saw above that this is the signification of a white hue; but if they are gleaming rather than grey, they mean a bold spirit, as in lions and eagles. Goatish eyes mean lustfulness, as in goats; fiery eyes impudence, as in dogs; eyes pale and mottled cowardice, for in terror the eyes go pale with splotches of colour; glistening eyes lasciviousness, on the analogy of the cock and the raven. (1984, vol. 1, pp. 1246–1248)

Aside from the naive fairytale interpretation of the eye-sign, certain valid elements are observable in the ancient *facial semiotics*. The healthy–unhealthy paradigm which heavily relies on the most precise portraiture and observation of minute semiotic features was sufficiently explored by Aristotle and his contemporaries. For example, it was not in vain that ancient Greeks were fearful of the protruding eyes—it was based on the observations of the faces of the mentally ill and developmentally retarded. Madness and imbecility were feared and no less condemned in the ancient Hellenic culture. After centuries of communal living, and close seeing of one another, the members of the ancient society learned to see and differentiate the so-called normal and abnormal, healthy and unhealthy. Patients, suffering from the thyroid gland dysfunction, also frequently have bulging or protruding eyes, clearly

signifying a serious physical disorder. At the early stage, such eyes could appear very beautiful and pleasant to the observer due to the special glow or glitter, without the transformation in size. At the later stages of the disease, when eyes come out of the orbit and begin to protrude, they lose the initial attractive glow. Thus, very early on, humans learned to recognize some symptoms of the disorder by mere attention paid to the eye by the eye. *Facial semiotics*, practised by millennia by the ordinary people and doctors, is continued to be practised in the proper medical diagnostics even today. Observant physicians see and deduce a lot by applying purely ordinary semiotic skills and analysing the most transparent biosignification.

Ancient Greeks, obsessed with harmony and equilibrium, developed in their culture certain standards of nature, particularly regarding the *body-sign*. Proportions and moderate size were their principal demands. “Neither large, nor small”—dictated to nature their entire cultural ethics. After all, it was the “know thyself and nothing in excess”—motto, which was inscribed onto the temple of Apollo, having become the symbol of the entire Hellenic tradition or the *recognizable cultural sign*. Hence, the recurrent Greek cautions against eyes that are too black or too large, or too small, face too fat, or too pale, anything which would signify excess. “Small eyes, even in Aristotelian interpretation, simultaneously stood for small-mindedness and impropriety”. The same *natural sign* simultaneously signified the myth of a small brain, another natural sign, and a proper behaviour, perpetuating a standard stereotype. But, again the Hellenic concept of harmony and equilibrium is behind the interpretation of smallness in this case: “Small eyes → small head → small brain → small mindedness”. The axis of the ancient Greek semiosis is definitely directed from nature to culture.



Aristotle wrote, “The small-minded have small limbs and small, delicate, lean bodies, small eyes and small faces, just like a Corinthian or Leucadian” (1984, vol. 1, p. 1242). This Aristotelian pathway of semiosis designs a protomap for the future dangerous *ethnosemiosis*, when *false signs* would be perceived as true signs and the size of eyes be offered as the measure of one’s intelligence and reason for discrimination.

26.3 Centre as a Cultural Sign

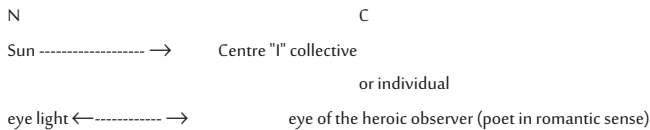
Aristotle (384–522 BC), a native of Stagira (Stavro), near modern Macedonia, spent the first main period of his life in Athens, studying at Plato’s Academy (367–347 BC). His bias against the Corinthians or the Leucadians is a typical Athens-centric attitude towards the other 158 city states, which were regarded as inferior, less im-

portant and whose inhabitants as the less civilized. The myth of the centre and its superiority is another cultural myth or *a universal cultural sign* in itself. One may observe a peculiar dynamics: Athens was perceived as the centre of Hellenic civilization vis-à-vis the other 158 city-states. In the modern era, Greece is still perceived as the centre of the Western world vis-à-vis the rest/barbarians/. “Christ” as the superior central sign, symbol of the *correct doxa*, the orthodox centre vis-à-vis other Christians and non-Christians. King, poet, painter, musician, leader, millionaire—all represent attempts to find the centre of *sociosemiosis*, the point around which society organizes itself and evolves.

A naive, intuitive semiotician of the Victorian era, Thomas Carlyle, provided a perfect explanation of the centre as *the universal sign*. In the context of his panegyric to poets, he unexpectedly maps the semiotic pathway of the cultural centre from the natural centre:

Two fit men; Dante, deep, fierce as the central fire of the world; Shakespeare, wide, placid, far-seeing, as the Sun. (1841[1966], p. 101)

Sun was the archetypal centre, and poet, possessing a “far-seeing eye” particularly the English poet, was the designation of the centre of the British and universal culture. The centre is always the “Sun” and the “I” which becomes the second sun. One easily notices a thorn in the other’s eye and fails to see the tree in one’s own. The “I” is always perceived as perfect, ideal, unrecognized, victimized and superior to the “other”. Thus, eye perceives the observed eye of the other as the peripheral, as opposed to one’s own as the centre.



Depending upon the cultural conventions this particular eye-sign is perceived as the *superior or central sign*. (The chief in the tribal culture, a monarch or an ecclesiastical figure in the medieval state, a political figure or a financial guru, a gang leader or a police chief, a media person or a movie star in contemporary American culture are such central signs or figures in the public eye.)

26.4 Mantegazza’s Interpretation of the Face-Sign

Dr. Paolo Mantegazza (1831–1910), a professor of medicine, a philosopher, an applied semiotician and the founder of the science of *metoposcopy*, stands in the middle of the transition period from the Victorian era to modernity. This “Italian Freud” and a neo-Aristotelian, had been a fortunate recipient of the ancient Graeco-Roman legacy, the Renaissance heritage and the Enlightenment, who had also substantially perfected the well-known traditional interpretations of the *face-sign* and its

sememes—eyes, nose, ears and hair—having incorporated all the previously known theories, from Aristotle to Darwin, into his own, an utterly new scientific system. He based it upon the evaluation of the voluminous available historical data, as well as his own anthropological and medical observations and his own rich existential theory of eudemonism. Unlike the ancients, Mantegazza could not give pre-eminence to nature, his theory is highly eclectic and sensitive to both nature and culture.

As a physician, Mantegazza acknowledged the inevitable—the biological process of decline, the visible changes in the human appearance, affected by illness, ageing, the hormonal shift and the overall given biological imperative, be it gender, age or race. He labelled those as the “determinants of the past successive epochs and accidents of life”. One’s age, sex and racial outward physical manifestation were, in Mantegazza’s view, merely “accidents of life” and, as such, represented the major existential dictum. In his mind, the biological given could not and should not predetermine one’s presence in the human world as well as one’s happiness and enjoyment of existence.

26.5 The Origins of Mantegazza’s Metoposcopy

Paolo Mantegazza did not invent the name “*metoposcopy*”, having drawn inspiration from the works of such Renaissance thinkers and scholars as Ciro Spontoni and his *Metoposcopy*, published in Venice (1626), and H. Cardani Medici Mediolanensis, *Metoposcopia* (1658) as well as *Phisionomie y varies secretos de naturaleza*, published in Barcelona (1610). His science of *metoposcopy* was inspired by the awareness of the transtemporal, transhistoric and “universal cult of the human face”, all the known biological meanings of the *face-sign*, which took into consideration all the numerous “diverse cultural alterations”, and the impact of other *cultural signs*, which might predetermine new meanings. When Mantegazza spoke of one’s moral character, position and rank in society, signified by the *face-sign*, he acknowledged the intricate complexity of the *nature/culture paradigm*. In doing so, he stepped far ahead of his contemporaries such as Charles Darwin (1809–1882) and Charles Bell (1774–1842).

26.6 Mantegazza Versus Darwin

Darwin, very much influenced by his own evolution theory, could not separate his theory of human emotions and facial expressions from the perception about the world of animals and nature. As it appears, Darwin valued human beings from the same perspective as dogs or cats, having ignored the millennia of cultural evolution that had given rise to the present modern complex gamut of human emotions, unexplainable from the purely physiological or biological point of view.

In contrast, Mantegazza, a physician, knew how the human facial muscles may be distorted by the various physical sensations, mediated by the facial expressions

and how pain may affect it, expressed in the changed curve of one's lips, the eye angle, the chin shape and the appearance of the forehead. He was also aware of how human emotions, the process of the mental anguish, the anxiety, the pain and the suffering could produce absolutely new and nonbiologically induced, purely cultural, meanings. His nonverbal communication theory, the *morphology of gesture* and the *alphabet of human expression* had profoundly and ably challenged Darwin on many points. Mantegazza mocks Darwin when he states: "The oyster itself has an expression of pain when we sprinkle it with lemon juice; but from this to Niobe or to the Laocoon, there is a long interval" (1883, p. 83). It is this long interval, which Mantegazza is alluding to, while working out the alphabet of human expression that interests him the most. Thought, in his view, was a mathematical phenomenon, albeit less expressive than feeling, still guiding the outward manifestation. Some expressions are automatic, e.g. closed eyes in response to a bright light. Mantegazza's "defensive and sympathetic emotions" do correspond to the Darwinian principle of "association of useful attitudes" and the antithesis principle" (1873, p. 81). But the automatism of emotional responses, claimed by Mantegazza, is more independent in animals and in young children, more so than in human adults. According to Mantegazza, human expressions fall into the three categories:

Expression of sense;
 Expression of passion;
 Expression of intellect.

In his view, the expression of sense signals the physiological needs of the body—hunger, thirst, sleep, cold, heat or the general biological natural responses such as the pain of the ailing parts of the body, imposed by illness, the natural hormonal vicissitudes, the menstrual cycles, the birth pain, or the agony of death, including the sensory touch, smell, sight and reproduction. When Mantegazza comes to the second type of human expressions—passions, he clearly leaves the fictional universe of Charles Darwin and Charles Bell, emphasizing the entire real rich gamut of human emotions—the self-esteem, vanity, humility, sense of decorum and aesthetics, feelings towards others, compassion, religious sentiments, sense of humour, irony, contempt, pleasure and pain of duty, labour, submission and social injustice, i.e. the multitude of human responses to one's own man-made institutions of culture—towards the most complex multilayered human cultural world and polyphonic expression such as music, painting, art, literature, science, poetry and architecture. When Mantegazza moves to the third phase—the intellect—he dissects it by having introduced the categories of pleasure, pain and doubt. He also further dissects pleasure as composed of another Aristotelian triad:

Attention
 Meditation
 Pleasure of mechanical work
 presenting also the Pain of Doubt, the Joy of Discovery, the Aesthetic Pleasure, and Pain,
 along with
 Pleasures and pains of injustice
 Artistic pleasure
 Scientific pleasure
 Literary and poetic ecstasy

Observation
 Rhetorical pleasure
 Speech
 Pleasure from debate
 Harmonious work

Mantegazza, an heir of Greeks and Romans, a representative of the most advanced civilization, which had shaped Europe, refused to reduce *homo sapiens*, a creator of culture, to the simple Darwinian, rather primitive repository of sensations, physical needs, reflexes and biological drives. His interpretation of the *face-sign* alluded to the vast complexity of the human inner intellectual world. Having made the recourse to Lavater's interpretation of the human face, he brought to the discussion his own sensitivity and vast expertise of an erudite cultural historian.

Johann Lavater (1741–1801), well-known theologian, poet, painter and renowned phrenologist, could occasionally read the human face correctly, having correctly identified Gabriel Honore Mirabeau (1749–1791) as a great revolutionary or read the faces of Auguste Conté (1749–1791) and Belgian philosopher and Cardinal Desiré Mereiver (1851–1926). But many times his method was flawed and failed him on many occasions. For example, one day, as the historical anecdote goes, his friend Zimmermann sent him a very accentuated human profile, accompanied by a letter to arouse his curiosity. Lavater, who expected the portrait of Johann Herder (1744–1803), which he longed to acquire, erroneously imagined it to be the profile of the great German philosopher. Instead, it turned out to be a portrait of a criminal, an assassin to be executed in Hanover. “That which happened to Lavater”, cautioned Mantegazza, “will always happen to those who take physiognomy as an exact science” (1883, p. 17). He stressed that, despite some involuntary human expressions, accompanying the senses, the passions and their visual significations, and most demonstrations are *culture-predicated*. Body and face may speak of love and strength and pain, but hair does not speak (although Darwin insisted that it does, giving examples of the hair state in some mental disorders). He reminded of the human ability reinvent one's hair which “may multiply a hundred fold every other beauty”, making “a hundred diverse pictures of one's face—twisted and twisted, plaited and worn loose, able to augment the proportion of one's head in different ways” (1883, p. 20). The aesthetic and ethical history of hair would deserve volumes. Mantegazza stressed that, rather numerous and extremely varied, human cultural conventions and agreed codes may restrict or allow for a more or less expressive language of the body and the face. He wrote, “Italians of animated expression say of the English-

They feel nothing! They are buffoons! Neither of these two impertinences has any foundation”

(1883, p. 85). Regarding the expression of emotions and significations of the face, Mantegazza pointed out that not all acts are involuntary or defensive: The automatism of the facial signification is frequently more of a sympathetic or imitative nature, in the Aristotelian, rather than the Darwinian, sense. Smile and laughter are not only the universal responses to the pleasure of food consumption, or erotic satisfaction but also the simple expressions of joy, satisfaction in life, dignity, self-respect and a general happy disposition or mood. Mantegazza observed that

the envious individuals rarely smile or laugh, having succumbed to the “*parasiti della felicità*”/thieves or robbers of happiness. If joy makes us rush from the house, pain makes us enter it and hide; joy makes us open the window, while pain forces to close it; the joyous seek light, movement, noise, while the unhappy crave for darkness, rest, silence and solitude. In Mantegazza’s view, a joyous person is an Epicurean, “with the Bacchic physiognomy, gleaming and warm, with a mouth, half-closed, always expectant kisses or savory morsels; half-opened and slightly troubled eyes, with the beatitude of naked Silenus, borne on the shoulders of the naked Bacchantes”—these are the anatomical and excessive features, which have inspired artists, in their creations of Bacchus, Silenus and Don Juan. Mantegazza claims that “the elevated joys of the intelligence are expressed by widely-opened and brilliant eyes, by the head, held Upright and attentive” (1883, p. 119). In his view, the aesthetic delights, the enjoyment of music and painting, i.e. the *cultural stimuli*, are capable of changing the expressions of human face, adding beauty and joy to it: “Let a painter go into a theatre when Patti is singing, and the atmosphere vibrating with the sweetest accents of Donizetti or Bellini” (1883, p. 119).

He insisted that there existed a physiognomy of fear, pain and that of joy of life. The face of the upright man is, above all, frank because it has nothing to conceal; it is serene and smiling, because the art of exercising “gentle affections is one of the surest and most durable joys of our life” (1883, p. 149). But some human states are not accompanied by any striking outward manifestations, e.g. envy or jealousy, and some may remind of the facial expression of a bitter taste (1883, p. 176). Like many Victorians, he insisted that the expression of intellect is centred in the head, the principle seat of thought, and in the eye which is the principal instrument of intellectual processing activity. “Men of genius could be as ugly as Aesop or as beautiful as Rafael, but all possess a fiery indefinable look, which is never encountered in an ordinary man”, maintained Mantegazza.

As far as the professional looks are concerned, or the signification of a habitual occupation and repeated tasks, he claimed there were particular muscular movements which could profoundly modify the facial expression after a prolonged muscular training and daily brain work, making us detect easily a druggist, a priest, a teacher, a soldier, a ballet dancer, etc. A particular expression is the effect of a centrifugal current, emanating from the brain and the spinal cord. However, Mantegazza admitted that men of strength could mask quite well their inner world, completely “closing the valve of expression or the internal flame”, and arresting the signification of the face. Mantegazza identified five distinct verdicts of the face:

1. Health condition leading to physiological judgement
2. Degree of beauty leading to aesthetic judgement
3. Moral worth affecting moral judgement
4. Intellectual worth producing intellectual judgement
5. Ethnic or racial belonging, causing the ethnic judgement

It is of interest that, unlike Darwin, Mantegazza placed the aesthetic judgement above the intellectual one, and above the racial or ethnic identity-influenced judgements. Among the universal features, Mantegazza distinguished the so-called an-

gelic faces, radiating love for all, frank faces, universally recognized as good, and patibulatory or the archetypal “criminal faces”, as well as the intelligent faces, whose muscles uphold vivacity and tonicity in action Mantegazza was a semiotician without ever claiming it. He made an attempt to look at the diachrony of face-signs from the semiotic perspective and from the position of the culturally predicated and biologically predetermined meanings. He wrote the following in the seventies of the nineteenth century:

The human face is such a field of observation for us that from our childhood we consider it as the most important object in all the animated world, which surrounds us. Our children from the tenderest years, before having received any education, very soon acquire enough experience to interpret the expressive language of the human face. (1883, p. 261)

One's experience and reading capacity grows from year to year, and people learn to interpret “the presentment of truth” in the face-sign, as he put it, stepping beyond the physiological verdict and obscure instinct. Thus, Mantegazza, contrary to Darwin, Rousseau and the later behaviourists, remained very much a follower of Aristotle, and a man of the enlightenment, emphasizing reason and believing in the power of the educated mind.

Aristotle used to view education as an ornament to prosperity and refuge in adversity. According to Diogenes Laertius, when once asked how the educated differ from the uneducated, Aristotle allegedly replied—“as much as the living from the dead” (1973, vol. 1, p. 463). In Aristotle's view, “education was the best provision for the old age” (1973, vol. 1, p. 465). By this he implied that knowledge, thought and ongoing intellectual pursuits of an educated person secured the best antidote against the possible mental decline, depression and despair of the old age. Similarly, Mantegazza taught that all the “five verdicts of the face” (health, beauty, mental worth, intellect and race) had been ultimately driven by the cultural, intellectual and moral judgements—do I expect any danger from this person/face, since “nothing is more important to us than to learn what we may expect [of] evil or [of] good from a man or woman we approach”, he used to argue. We are all masters of interpreting what Mantegazza called “the shorthand signs”, or the *alphabet of facial expression*, as far as the state of health, nutrition or blood circulation is concerned.

In his *Physiology of Pain*, Mantegazza describes how human face may express permanent pain and ill health. There are some functions that are “written” on the face, which could be noticed by an observant doctor, helping him to detect early symptoms of illness and diagnose them correctly—the morbid faces of the colic-stricken, diabetic, arthritic, pellagra-afflicted, tetanile and other faces, moribund, or the characteristic Hippocratic face (losing life), or apoplectic one. If the signs of sickness are of more value to a physician, the signs of happiness or the eudemonic state are sought and recognized by all:

To love, to love everyone and always, to be incapable of hatred— this is the ideal goodness, and that written on the angelic face by many negative and some positive characters (1890, p. 30).

One's habit of hatred or malicious attitude towards others, and one's cruel actions are bound to leave an imprint on the face, debasing man, since, in his view, “the

good man is happy”. A frank physiognomy, a *transparent sign*, is the common goal of all. Mantegazza approached the subject of the face-sign with the full awareness of the cultural distance and differences. Even when commenting on the work of the seventeenth- and eighteenth-century illustrious Giovanni Dalla Porta, whom Mantegazza regarded as “the high priest of physiognomy”, he was able to detect the borrowed elements from Plato, Aristotle, Zeno and Adamanteus. His theory anticipated the postulates of the American mathematician, philosopher and semiotician Charles Peirce (1839–1914), and, while paying respects to Darwin and Bell, it is inseparable from the Epicurean thought of Greek eudemonism, albeit advanced with his own semiotic component.

26.7 Mantegazza’s Interpretation of the Face-Sign and Philosophy of Eudemonism

A happy man, in his view, is not only the one whose face is happy but also the one who has embraced the ancient pre-scientific Greek “nothing in excess–principle” and strives to be happy with less than could be desired or available. In his attempts to classify human faces, Mantegazza relied on variety of ancient and modern sources—Plato, Aristotle, Hippocrates, Galen, Jerome Curtes, Plutarch, Dalla Porta, Leonardo da Vinci and much-admired Jesuit Niquetius (who had quoted 120 works, including those by: Cicero, Seneca, Avicenna, Terence, Plautus and Pliny). He was familiar with Cordello Ghirandelli, the author of *Cefalogia Fisionomica*, published in Bologna (1672), whose work was being peppered with Latin quotations, e.g. *Ego te porrectore fronte volo mecum logui* (Plautus). Mantegazza was fascinated by the Jesuit Niquetius, who had regarded brow as the most secret and noble part of the human face, by Tommaseo, who had been fixated on the mouth, and could not bypass Lavater—all of whom had been, in one way or the other, visionaries of true sentiment. But Herder, the creator of the philosophy of history, amused him the most. Herder used to utter, “It is from the mouth that the voice issues, [as an]interpreter of the heart and of the soul, the expression of feeling and of present enthusiasm”.

Placing higher value on reason, Mantegazza still claimed that there were some aesthetic judgements, largely predicated by the intuitive Darwinian selection technique. “We are all Darwinians without knowing it”, he admitted. Nonetheless, “most of the human unhappiness is not biologically driven”, he categorically stated, it is not the physical, biological or Darwinian principles which contribute to human misery and despair. A century before Rene Girard, Mantegazza established the major cause of human unhappiness, provoked by pride and envy, and formulated the authentic existential formula of human interrelationships, marred by the “parasites of happiness”/*parasiti della felicità* and the basic conflict of the soul, locked into the prison cell of pride and envy (1870, p. 83). Pride, he argued, exaggerated one’s own ability, creating a delusion of grandeur. Whenever there is pride, there is envy, a desire to possess the wealth, the fame, the talent, or the status of the other, as Gi-

rard would claim a century later. A delusional self is envious of the other, unable to attain the impossible heights. It is the “moral fungus”, eating the self and depriving it from happiness:

Ora è vanità ed ora è orgoglio, ora è millanteria ed ora
saccenteria; ora è pretezione ed ora gonfezza; ma è
sempre un fungo fètido che tutto avvelena
(1870, p. 83)

Wherever there is vanity, pride, arrogance, haughtiness
and pomposity there is all-poisoning and ruining fungus)

Given the fact that most human conflicts are driven by pride and envy, it is self-explanatory why most humans are unhappy. A certain dosage of pride is required to move the happiness-leading ambitions to motivate the man for creative and pleasure-producing actions, but, again, it is the sense of balance and equilibrium that is needed to leave man happy/*esser felici*. Of all the three, envy is the most serious parasite of happy existence and happiness/*felicita* is the hardest to attain. It is tied to the malice, the desire to enjoy the misery and pain of others.

The last in his *triad* of unhappiness is fear. A fearful man could have no reasons to be unhappy in the present, but is still fearful of the potential unhappiness in the future, the possible misery that may or may not even ever come, and this contributes to one's unhappiness. He ended his treatise *On the Art of Being Happy* (the work which was translated even into Russian in 1888) with the Epicurean sermon:

Si volete esser felice— if you want to be happy
Tenete—strive
Dunque lontano— Further
Dall albero—from the tree
Della vostra felicità— in your own happiness
Il fungo — away from the fungus
Dell 'orgoglio— of Pride
Il verme dell'invidia — from the worms of Envy
E il bruco— and grub of
Della paura — Fear.
(Mantegazza 1870; Makolkin 2007, p. 135)

Mantegazza empowers the human being with his own *sapienza*, power to reason, to evaluate one's own self and perfect it in the manner of and according to the prescription of the Graeco-Roman philosophy, in the Epicurean and Aristotelian manner. His triad of the universal permanent existential enemies is remarkably symmetrical to the Epicurean formula, defining hatred, envy and contempt, which a wise man should be able to overcome in order to be happy. Existence had been already defined in antiquity as the function of reason and happiness, a possible goal attainable by all wise men.

Mantegazza's theory of happy existence or eudemonism also echoes the relevant disputes between Kant and Pietro Verri, whom he never mentions in his work, but both of whom pondered over pleasure and ways of attaining it, and must be known to him. Indirectly moving towards the theory of happiness, Pietro Verri (1728–1797), the founder of the famous “*Il Caffè*”, anonymously published in

Livorno *Idee sull'indole del piacere* (1773) that was translated in German 3 years later. Verri starts his treatise with what he perceives as the main emotional experiences, forming the basis of the stable moral health:

Pleasure
Duty
Desire
Hope

Pleasures, in his view, are derived from the communion with art and beauty. His concept of *piacere*/pleasure is inseparable from beauty/*bellezza*, expressed in poetry, drama, music, the eloquent and beautiful manifestation of human imagination. Verri's categories reflected those in Christian Wolf (1679–1764), Johan Georg Sulzer (1720–1779), Christoph Meiner (1747–1810), Pietro Moscati (1739–1824) and Maupertius (1698–1759). Verri was very much impressed by the ideas of the Italian vitalist, Pietro Moscati, who, relying on German psychologist and Cartesian philosopher, Christian Wolf, and Swiss philosopher and aesthetician, Johan Sulzer, who used to distinguish 143 pleasures allegedly experienced by man in one's life time and all which were culture-predetermined. Following Moscati, Verri argued that, albeit primary, these pleasures should, nonetheless, improve the relationships with other people, affecting the duties and obligations for one another, which balance and even out the individual desires and ambitions. Ultimately, they create harmony and happiness in daily life, securing one's happiness as a result. However, all these depend primarily on one's state of physical health, material well-being and respect in the society. Verri did not construct the impossible ideal world, but rather a pragmatic realistic universe for enjoyment of life. It is interesting that, in his discourse on existence, Verri refers to the "virtuoso Epicurus" while interpreting the ancient Greek philosopher in his own modern suitable manner and adjusting his ideas to his own time. The ancient sickly Epicurus (341–271 BC), who spent his days sitting on his chair and contemplating about happiness, inspired Verri who sought to make physical health the primary precondition for human happiness. Pain, physical or emotional, is the eternal companion of being. It is the necessary antipode of pleasure, which could not be fully experienced without the memory of pain. According to Verri, humans are endowed with the equally divided and balanced positive and negative pleasurable and nonpleasurable experiences, securing the flame of hope and happiness.

Immanuel Kant (1724–1804) regarded hope as one of the moral pleasures, deriving from the innate programmed moral health. Yet, he articulated and defined moral pleasure as a function of consciousness. The Kantian triad—consciousness, ability to obtain pleasure/displeasure and free will—places reason, culture and civilized traditions above the individual ability to obtain physical pleasure. Even if pain and displeasure make life seem longer, while pleasurable experiences appear short-lived, there happens to be a balance of both pleasures that include the enjoyment of art, music, dance and poetry and the gastronomical, sexual or sensational pleasures, like smoking, albeit inferior to the pleasures of the intellect. Human happiness, as per Kant, stems from the inability to remain in the present, and it is the constant strive into the future, which torments humans, depriving them from enjoying life,

here and now. The root of unhappiness is boredom, passivity and lack of action. All human deeds are though incapable of preventing and overcoming pain, neither can any pleasures. One should simply face the negative and painful courageously and accept as a given, since they are impossible to be overcome. Pain triggers movement and regulates existence by giving in to the intermittent pleasures, but not surrendering to them. At the end, it is work which gives us the utmost peace, enabling us to forget pain, and each liberation from pain would thus amount to pleasure, taught Kant.

Kant, one of many Mantegazza's mentors, saw happiness as an ideal substance in itself, whose each ingredient could not be separated or excreted and, in fact, as a sum of innumerable joys, contributing to the great human satisfaction or the ultimate state of contentment, serenity and peace (1998, p. 98). It is Immanuel Kant who identified moral wisdom as the foundation of happiness and the supreme wisdom as the foundation of the entire humanity. Each pleasure, in his view, has to be preceded by pain (later recognizable in Mantegazza)—*Il dolore dunque deve precedere ogni piacere* (1998, p. 105). Once humans accept this with their reason, they are able to allow pleasure to enter their lives. Although if they are to be governed by moral wisdom, or if human actions are constantly verified by it, in terms of goodness, morality and benefit to others, they are able to enjoy living and derive moral or the ultimate pleasure. It is this moral pleasure, the same category, shared by Pietro Verri and Kant, which identified Mantegazza's *Theory of Eudemonism*. Sharing and compassion for the other are, in his view, the moral and distinctly human pleasures, for the sense of doing good for the other is the entirely human achievement of the civilized humanity. This was also the precondition of happiness or what Mantegazza called the "moral health".

Mantegazza, a contemporary and spokesman of modernism, the epoch, also known as the era of "European Decadence", stands in the history of European culture and history of ideas, as a wise mediator between the all-knowing antiquity, happy Renaissance, the successful Enlightenment and his own days, characterized by some confusion, a state of indeterminacy of standing at the cultural cross roads, so to speak. Unlike, the later coming and more confused, Sigmund Freud, who was unable to guide humanity towards better and healthier existence, offering unproductive fixation on the eroticism or the sexual pleasure, Paolo Mantegazza took a different route. Following Aristotle and Epicurus, Pietro Verri and Kant—the beacons of reason who had served humanity quite well in civilizing humanity in the past—he invented a simple recipe for attaining happy condition at the most unhappy moment in history, during another crisis of European civilization. Standing at the end tail of the Romantic era, Mantegazza caught a glimpse of the upcoming unsettling future when a man would totally forget the art of being happy and one's own existential wisdom. He was able to see beyond his century, and even beyond the next, an even more unhappy European epoch. It is quite appropriate to recall the name of Paolo Mantegazza this year, when the 150th anniversary of Sigmund Freud is celebrated in the intellectual European world. After all, this little-known Italian sage (rather than the sombre and depressed German physician) and his theory of eudemonism and hierarchy of pleasures did offer a real cure from the "modern nervousness", and

discontent. Unlike Freud, who had been disillusioned with culture and civilization and placed very little trust in human reason, Paolo Mantegazza dared again to worship human imagination, rational grasp of being and the ability to find happiness in the harmonious existence of body and mind.

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Anna Makolkin is an interdisciplinary scholar with more than 100 publications in various fields of humanities. Her most recent books are: *Wisdom and Happiness with/without God* (2009), *Italian Librettist Re-Writing* (2011). She is the vice-president of the *URAM* Society, Semiotics section editor of the *URAM Journal*, and consulting editor of the *Biocosmology and Aristotelianism Journal*.

Chapter 27

Feeling and Meaning: A Unitary Bio-Semiotic Account

Jay Lemke

27.1 Claims and Scope

I will argue that feeling and meaning are two aspects of the same material processes, that the dynamical system in which these processes occur is always larger than what we think of as an individual human organism, and that meaning and feeling as processes always occur across multiple timescales and scales of organization in complex open dynamical systems and have their origins in systems that may be simpler than single cells. I will argue that both feeling and meaning as processes are distributed, situated, context dependent, active, and culture specific.

In the course of these arguments, we will consider the relations of a unitary feeling-and-meaning process to movement and the animacy of living systems, to the semantics of language and more generally to multi-modal semiotic resources, and to experiential qualia. I have by no means put together a complete, consistent theoretical model of these matters. I do not in fact believe that doing so is either possible or desirable. Given the richness, complexity, messiness, and inevitable problems of self-reference involved, the best we can do is to assemble a toolkit of discourses and practices with which we can do useful *bricolage* for whatever our purposes may be in some specific inquiry or project. Whatever I offer here, more work will always need to be done to make sense of any actual lived trajectory of feeling-and-meaning.

J. Lemke (✉)
University of California, San Diego, USA
e-mail: jalemke@ucsd.edu

27.2 Is feeling a Kind of Meaning? Or Is It the Other Way Around?

What role do those phenomena we variously call emotions, affects, or most generally *feelings* play in the ways we make meaning, the ways we make sense of and with the world and one another? How can we analyze rich media data that document living activity without slighting either the feelings that incline us to particular actions or the meanings through which we interpret and choose possible actions?

If a synthesis of approaches, heretofore separate, to both meaning (based in semiotics) and to feeling (from the phenomenology of experience) is to be possible, then I believe that a necessary first step is to reconceptualize feeling processes along the same lines that we have done in recent decades for meaning-making processes.

Meaning is a process, meaning-making, or semiosis. I do not use the term here to denote a relation (e.g., between signifier and signified, or among object, representamen, and interpretant as in Peirce) but rather the process of construing such relations, a process which takes place in a material system, is itself a material process (or functional system of interdependent material processes), and which functions to adapt an organism to its environment and give it enhanced capacities to alter that environment.

Meaning-making can no longer be regarded in sophisticated analyses as being something that happens in-the-head, or which belongs to a nonmaterial mental realm (*res cogitans*) apart from the material (*res extensa*) in the classic Cartesian sense. It should rather be recognized as being *distributed*: between organisms and environments, subjects and objects, cooperating persons and mediating artifacts. Its material substrate, i.e., the dynamical system in and through which meanings are made, includes what have traditionally been distinguished as “subjects” (with a misconceived monopoly on agency and intentionality), “objects” (wrongly regarded as passive or merely reactive), and “mediational means” (tools, symbolic representations, etc.).

Likewise meaning-making is *situated*, both in the sense of being influenced by the context of situation (setting, participants, affordances of objects), and in the sense of being distributed throughout the situation, where relevance to meanings made, and to feelings produced, defines what is or is not part of the “situation.”

Meaning-making, or semiosis, is also an *active* process, not specifically in the sense of conscious intention and agency attributed only to humans, but in the sense that it is not simply a reaction to external stimuli: through it situations are changed, actions imagined, possible and probable relevant events anticipated, transfers of energy, matter, and information initiated, evaluations made.

Moreover, its modes of operation are not psychological universals. The specific processes and their deployment vary: across human communities, individuals, situations, and moments. It is *locally specific*, and in common parlance *culturally specific*. The capacity to make meaning, or to participate in meaning-making processes, is universal for the human species (and for all other species, though in less elaborated ways), but the meanings actually made, the meanings which are typically made, the specific associations of meanings and situations, all vary.

All These Claims Are Also True for Feeling If we are to bring the analysis of meanings and feelings into productive conjunction, we need to reject older elements of our own cultural tradition according to which feeling, and more specifically what we are taught to call “emotions,” are themselves “in-the-head,” mentalistic phenomena, purely individual and intra-organismic, passive reactions, and psychologically universal. We need rather to reconceptualize feeling as an active process, distributed in a dynamical system that includes ourselves and others and the material elements of the settings and networks of mediating artifacts that make feeling, like meaning, happen as it does in each instance.

We need to reconceptualize feeling as distributed, situated, active, material, and locally and culturally, specific.

It may help to recognize the long Western cultural and philosophical animus against feeling, specifically against “emotion,” and the false opposition thereby created between “Passion” and “Reason,” praising the latter and warning that the passions are reason’s enemy, distorting, biasing, and undermining it. We should recognize at the same time that this has always also been a political animus, denigrating women, serfs, workers, children, and the peoples of Africa, Latin America, Asia, and even those of southern Europe, as too prone to the effects of emotion and therefore unable to govern themselves properly according to Reason. Such powerful political motivations have long kept the reason–emotion opposition alive when it might otherwise have died for lack of intellectual merit.

I will generally be using the term *feeling* here rather than either *emotion* or the more currently fashionable term *affect*, both to distance my discussion from these older prejudices, and to ground an approach to the “higher affects” (e.g., pride, sense of nobility, playfulness, reverence) and the classic emotions (love, hate, anger, fear, etc.) in much more general proprioceptive and animating processes (e.g., feelings of drowsiness or alertness, calm or frenzy). I do so in parallel with the broad usage of *meaning* (cf. cognition) to cover everything from attentional focus or salience to evaluations and interpretations.

I hope it is clear that I am also taking both meaning and feeling processes to be “embodied”—just not embodied solely within the limits of single human organisms, though obviously for us experientially they are both very significantly dependent on perceptual and motor processes, on neurological and biochemical processes that do occur in some sense “within” us, though never, I think, insofar as they are relevant to meaning and feeling, without necessary connections to our interactions in and with a larger material environment.

Indeed, the perspective being offered here requires us to rethink what we mean by organism and environment, in biological terms, and especially what we mean by person and environment, in meaning-and-feeling terms. I will discuss this in more detail below, but for now recall von Uexküll’s (1928, 1982) notions of *Umwelt* and its less-well-known partners *Wirkwelt* and *Merkwelt*. In this account, the organism interacts with its material environments in ways that make some of their physical features more or less salient as elements relevant to particular processes, and more broadly, the basis on which any boundary is drawn between inside and outside, me and it/you, changes from species to species, organism to organism, and event

to event. We are originally and always integral parts of larger ecological (including sociocultural) wholes, and our separability as individual persons or organisms is a very locally specific and variable construction. While I will refine this initial description later (see discussion of the Three-level Model below), for now we shall put wholes before parts, asking always what happens within wholes to differentiate them into parts.

Let me conclude this section by returning briefly to the initial question: if we reconceptualize feeling to bring it more in line with newer understandings of meaning, then what sort of relationship between the two are we aiming at?

We could for example try to reframe feeling as a specific kind of meaning. This is done quite naturally in studies of the meaning of feelings, for example in analyses of the semantics of feeling terms in natural languages (Bednarek 2008; Martin and White 2005). It could also characterize the somewhat imperialistic efforts of the field of cognitive psychology to theorize emotions solely as evaluations, and thus as a specific variety of meaning-making (Frijda 2004; Lazarus and Lazarus 1994). There is, I believe, a certain usefulness in trying to understand what kinds of meaning-making are most convergent with active feeling processes. We can use the tools of linguistic semantics and more generally of multimodal semiotics to characterize the meanings that accompany, inform, call forth, modulate, interpret, and evaluate feelings. I will return to this later.

On the other hand, we could try to reframe meaning as a kind of feeling, to ground the meaning-making process in what might seem to be phylogenetically earlier feeling processes, and to in fact imagine that bodily feelings were the first signifiers, prior to words, to gestures, and indeed to humans. I believe that this is also a useful exercise. But it happens not to be the case that feelings are phylogenetically prior to semiosis. Semiosis is as old as life itself, if not older. And so are feelings. Not perhaps in the sense of experienced qualia, which require a relatively high degree of nervous system complexity, but at least when regarded as consequential indices of system and subsystem conditions. In fact, it is in these simplest possible systems which can do both semiosis and aesthesis (i.e., feeling) that we find the very same processes functioning as both. It is for this reason, and in order to emphasize a material-process view of semiosis, that I align my arguments here with recent approaches to bio-semiosis (e.g., Hoffmeyer 2008).

27.2.1 Pointers to the Literature

I am trying in this complex discussion to keep citations to a minimum. The literature on these topics is vast, and it is not my purpose to engage with it directly. Instead, I will from time to time insert a short section of references to particular, representative works that can serve to guide interested readers further, including references to my own work.

So, for current views of meaning-making (often under the heading of cognition, or semiosis) as: distributed (Hutchins 1995), situated (Lave 1988; Lave and Wenger 1992), material and semiotic (Hoffmeyer 2008; Lemke 2000b), culture-specific

(Halliday 1978; Lucy 1992a, 1992b). For culture-specific emotions, see (Lutz 1995) and broadly on the historical bias against the passions, see (Noble 1992).

27.2.2 *Origins and Fundamentals: Feeling*

There is a certain rhetorical awkwardness in my project. Ultimately, I want to maintain that meaning and feeling are a single process. At best, it can be useful to think of them as two complementary and mutually informing aspects of a single process. But we all begin with rather different ideas about what each of them is, and so for a time I will need to discuss them separately in order to connect our initially separate ideas about them.

Let's start with a little naïve phenomenology about feelings. Most of the time, we are not in the grip of strong, named emotions. We are not feeling angry or frightened. We may be feeling energetic or lazy, alert or tired, hungry or restless. For all these feelings, we recognize that they have some sort of onset, perhaps unnoticed at the time, some sense of duration-till-now, some degree of, perhaps variable, intensity. We always feel somewhere on the cline between elated and depressed, hopeful and despairing, energetic and fatigued, hungry and sated. And most often somewhere in the unmarked middle range, call it satisfactory, or call it nothing. No warning bells, no special conditions. But even this middle state is a distinct feeling, as we know from its absence or replacement by something more unusual.

We are taught to think of these feeling conditions as conditions of our selves or of our bodies. But in fact they are always indices of the condition of us-in-the-world, of our actual and potential interactions with what we think of as our environment: other people, things, circumstances, places. We inherit the Cartesian error of thinking of our minds or selves as separate from our bodies, as Descartes himself inherited it from centuries of Christian theology separating the soul from the body, the realm of spirit from that of matter. We do not sit inside our own bodies looking out. We *are* our bodies, actively scanning and looking *for*; looking around, reacting to visual impressions, anticipating them, comparing expectation to current sensation, etc. And of course, we are a great deal more: all the rest that our bodies are doing in the process of being and staying alive, much of which is some sort of interaction with, action upon, or anticipation and imagination of what is happening “outside” us.

Physics and biology tell us not to take the notion of the isolated organism too seriously. Even while law, commerce, and religion want us to take the notion of our individual personhood, soul, and moral–legal–financial responsibility very seriously. But living organisms are dynamic, open systems: they exist only by virtue of their (our) transactions with the environment, only by continuously exchanging matter (air, food, waste), energy (heat, nutrition), and information (perception, action, language) with other elements of the larger ecological and social systems to which we belong. Interrupt any of these for a short time and we rapidly become less human, less healthy, and finally much less (or not at all) alive.

What we are is the product of what we are doing now, and what we have done in the past that leaves its traces. But much of that is not “our” doing, but what has been done to us, has happened to us, has happened in fact in our interaction with the environment, each affecting the other, until it becomes impossible to say what came only from the doing of the organism and what came only from the doing of the environment. In developmental biology, each organism begins as an integral part of some other organism (for us, a mother), which is itself already tightly integrated into larger units (a family, a community, a culture or society), and we gradually become more specialized and differentiated as a part of the mother-ecology system. Our initial cellular being at fertilization is primarily a cell of the mother (the egg, ovum), with a tiny contribution of part of our father’s biochemical recipe book (his DNA), which the ovum adds to its own inherited recipes, all of which it proceeds to make use of as needed, as it continues its own destiny in the maternal “germ line.”

Even after birth, the newborn is totally dependent on the mother, and is for most purposes really still a part of the mother biologically. Even after a long period of tissue separation and separate experiencing, mother and child have an intense bond, marked by their mutual separation anxieties. And they have been sharing nutrition and immune systems, not to mention physical contact, mutual responsiveness, etc. both before birth and after. The child also gradually inherits the mother’s family, community, places, language, and culture as it comes to interact with these in ways that very gradually become less totally intermediated by the mother. So, the child comes to have its own unique integration, still as a part, into the same larger whole as the mother.

I am presenting this picture of organisms as units within larger wholes because it is essential to understanding that feelings monitor not simply the organism as a somewhat artificially separable unit, but the status of the organism-in-environment system. They monitor relations and interactions, actual and potential, and as part of that function, of course, they also monitor some aspects that we can think of as more “internal.”

But why do we have such feelings? What are their actual and evolutionary (i.e., past, ancestral) adaptive functions? If we feel tired, why does that matter? It matters because it is a relevant aspect of our stance to the environment, our readiness to respond to danger or opportunity in and from the environment. Likewise if we feel nauseous, that too is a feeling about our condition relative to the environment, and perhaps also to what we should be ingesting from it or not.

It has long been accepted that the strong, visceral, named emotions, such as fear and anger, desire and disgust are indicators of whether we should seek out or flee from something in the environment, whether we should attack or run away, swallow or spit out. In these cases even more clearly, feelings are about interactions and relations, they monitor the conditions of us-in-it, and not simply of our imagined “interiors.”

In this sense, feelings are most fundamentally signals or indices of part-in-whole relevant conditions. For us humans, in the right “external” circumstances, these signals or indices are “felt” as what philosophers quaintly call experiential “qualia.” This is what we recognize as the feeling of our feelings, what anger or fear or nau-

sea feels like to us on some particular occasion. But a system does not need to have the elaborate neurological-hormonal machinery of a human body to benefit from having and responding to such signals. A single cell certainly has feedback mechanisms, chemical signaling, sensitivity to local and protoplasmic concentrations of various chemicals, and ways of reacting to them, which serve the same function (Hoffmeyer 2008). And so on up the scale of organismic complexity throughout the whole kingdom of life, from unicellular to human. The qualia of feelings may differ from species to species, as they do, I believe, from person to person, and even from occasion to occasion. They may be absent as qualia from the simplest organisms, but not absent as processes with the same functions.

I have so far in this account of feelings neglected somewhat one key aspect. Feelings are not passive, any more than perceptual processes are. We do not simply sit and absorb passing photons, sound waves, and chemicals. We actively seek them out, we scan, we anticipate, we actively listen and sniff. The most unique property of living systems is that we are restless. We are constantly interacting with the environment, we are constantly actively doing. We are moving, we are animate (for a brilliant discussion see Sheets-Johnstone 2009). We generate our feelings actively just as much as the environment provokes them in us as responses. Feelings do not just monitor, they are the products and indexical signs of our interaction with everything around us.

From this account it should already be clear, though we will say more about these points later, that feelings too are distributed (arising in a material system that goes beyond the isolated organism), situated (i.e., specific to the context of setting, place, other persons and things present), active (initiating, interactive), material (processes in and among material systems), and locally and culturally specific (different in detail across species, communities, individuals, cultures, and occasions). It may also seem that feelings are phylogenetically more primitive than meanings, and so cannot really be aspects of the same processes by which we make meanings. But this view underestimates radically the scope of meaning-making, i.e., semiotic processes in material systems. And it is to this complementary topic that I now turn.

27.2.3 *Origins and Fundamentals: Meaning*

We have become accustomed to thinking of the term meaning as a noun, a sort of abstract thing. But I try to use it consistently as a verb, an action process, something we do when we mean something. To remind us of this I use the synonym, *meaning-making*, for the (material) process. And meaning-making, in turn, is a less-formal term for *semiosis*, provided we keep in mind that here semiosis will always mean the actual dynamical material processes of making-meaning, and not simply the abstract phenomenon.

Perhaps the most useful starting point for understanding meaning-making or semiosis is Charles Sanders Peirce's (1998) basic account of it as a sign-process. Semiosis is the process by which something comes to stand for something else to someone (or something). Peirce's great contribution was to see semiosis as an

inseparable unity of three, rather than two, elements. The more classic view of a sign was simply a relation between a signifier (the thing that stands for something else) and a signified (the something else), a binary relation. And the incoherent theories of representation, and even of truth that many people still struggle with today have never gotten very far past this misleading over simplification (Bickhard and Terveen 1996).

To dispense quickly with binarism, what it basically says is that the signifier is a representation of the signified, in one respect or another, and that it is an accurate or truthful representation when the conditions that apply to the one can be translated into those that apply to the other. So, in this view, verbal propositions or claims, are true if they are “in correspondence” with the world, i.e., if they are accurate, faithful, truthful representations of it. This is all nonsense (or as Mark Bickhard more politely puts it, incoherent).

There are a number of unsupportable assumptions in the binary view, beginning, as Peirce noted, with the simple fact that no signifier (he calls this the *representamen*, in his somewhat archaic, but well-defined terminology) ever by itself points to what it is a signifier of, i.e., to its signified (which he calls its *object*). How are we supposed to know what the word “horse” refers to; or a scribble on a piece of paper? How do we know which “real-world reality” some verbal proposition is supposed to represent or be “in correspondence” with? The signifiers can’t tell us that. We have to interpret some signifier as being a sign of some particular signified or object, or someone else has to tell us how to do this, or do it for us—even if this means teaching us how to use the English language in some environment (and a lot else besides). In every case of semiosis there must be what I shall call, updating Peirce’s terminology a bit for my purposes, an Interpreting System or *System-of-Interpretance* (hereafter, the S.I.).

The S.I. is the crucial third element, the one that construes (a term from Halliday) a specific kind of relationship (not just “correspondence”; Peirce catalogues a couple dozen specific logical and material relationships) between signifier (representamen) and signified (object). In doing so, the S.I. produces a response, a reaction, an interpretation, a meaning, which Peirce calls the “interpretant.” (In fact there is usually a whole sequence of interpretants, each taking the previous one as another representamen.)

I will not follow Peirce into the details of his scheme for analyzing sign relationships, beyond the basic insight that you always need an interpreter or S.I. to construe some relationship between signifier and signified, and in doing so to in fact connect any signifier (or representation, in usual parlance) to a particular, and quite conventional (or at any rate, S.I. specific) signified. I will also not say much regarding the epistemological and ontological implications of doing away with a correspondence theory of meaning or truth, except to say that it makes far more sense to build a more interactive model of the relationship between representations and “the world,” in which representations are themselves material things in the world, with which S.I.’s make meanings, and which in turn materially affect the world (and the S.I.). People, representations (texts, images, videos), and other things are intimately

interdependent and interconnected in extended networks of heterogeneous relationships (Latour 1999).

So, what is the simplest material system that can do semiosis? Consideration of this question leads to some further basics for a materialist theory of meaning-making.

How should we distinguish between simple material (Aristotle's "efficient") causation and a semiotically mediated response by some system? Between a chair that tips over when kicked and a paramecium that swims in the direction of some potential food? What tests can we apply to say that some instance is an example of semiosis or not?

Of course you may not want to start with the paramecium, when what we are asking is how meaning is made. So, let us back up and consider more familiar cases of meaning-making according to a Peircean model—and with a little help from (Bateson 1972).

As we interact in the world we encounter a lot of perceptions, actions, phenomena, doings and happenings, processes and things, places and occasions. For some of them to count for us as signs of others, there has to be some set of associations (our nervous systems seem good at producing these), such that there is not, for us, an equal likelihood that anything can go with (i.e., follow closely in time, or appear nearby in space) anything else. There is not an equal probability or frequency of all possible combinations. There is not total chaos, but for us there is some degree of order. Mathematically, this means that there is some degree of "redundancy" or informational order: some things are more likely to go with (predict) some other things, not absolutely, not 100% of the time, but more than by mere chance alone.

These more-likely combinations can then be regarded as provisional units on a larger scale, and to them can then be associated still more elements that tend to more often be associated with them. If we then encounter some of these, we tend to expect the others. Our expectations come to be context dependent. In seeing one thing, we take it as a sign of the whole cluster, or context; or alternatively, having recognized a whole, a context, from some of its signs, we then have a particular set of expectations different from what we would have in some other recognized context.

For any given item that we encounter (thing, happening, whatever), there are various associations it might have, predicting various other items, and *which predicts which* is itself also a function of context on a still larger scale. This works both ways, of course: seeing a pattern of associations, we infer a context; and inferring a context, we adjust our expectations. A particular set of associations predicts a context, and vice versa. Indeed, a pattern of associations constitutes a context at a larger scale. A part of a pattern gives rise to expectations about a number of possible contexts or situations we may be in, and further experience either narrows this down to a familiar one, or leads us to build up a new one.

In the language of semiotics, these are indexical relations: patterns of associations index contexts (contextual sets), and contexts index the various elements and associations that constitute them, symmetric indexical contextualization. We are almost to meaning-making.

There is one more logical step, together with its material implications. (So far, we have been concerned with the logical relationships more than the material ones.) Imagine that we have a system that construes relationships as follows:

$$\langle A_i / B_j // C_k \rangle$$

meaning that in some context C , we have a particular set of relations between A s and B s. I am skipping here the more elementary steps of noting that even the act of identifying *what* an item is depends on the patterns and context in which we find it. And the generalization that the process we have described also suffices to create classes or categories of similar, but contrasting items (A_1 vs. A_2 , B_1 vs. B_2). These are standard semiotic operations (classification, differentiation).

But will every S.I. construe experience in the same way? The same patterns of association of A s and B s (and whatever else) in the same contexts (C s)? No, of course not. There is not one meaning-world for all organisms, or indeed for all individual people. Jakob von Uexküll's analysis of the *Umwelt* of a species argued persuasively that different species "see" the world differently. Not just because they have different sensory organs, but because different aspects of the environment are differentially relevant to them, to their survival, to their reproduction and interactions. Their worlds are different in terms of the *Merkwelt*, or what is perceptually salient (the "marks" we notice), the *Wirkwelt* (the action world, how the world is for us in terms of how we act on it), and most generally the *Umwelt* (a notion of ecological "niche" that is more fundamentally interactive and less positivistic than the one that is often still used in biology).

So, we need to extend our notation a bit more:

$$\langle A_i / B_j // C_k /// S.I._m \rangle$$

where we now imagine different S.I.s (labeled by $m=1, 2, 3, \dots$), each of which construes different situations or contexts, within which it will connect different A s and B s in different ways. Note that this "construing" is the Peircean semiosis: taking, for instance, an A as a signifier of a B , in context C , for that S.I.

In mathematical or information theory terms, $\langle A_i / B_j \rangle$ means that the set of A s and the set of B s are mutually redundant (have mutual information); from partial knowledge of one, we can partially predict the other, with better than random chance of success. And $\langle A_i / B_j // C_k \rangle$ means that the context sets C_k are redundant with the redundancy relations of the A s and B s! Bateson's called this "meta-redundancy" or redundancy among redundancies. It was a first key step towards characterizing meaning-making as *selective indexical meta-contextualization*.

This is a very abstract characterization. It is a logical formulation, following Peirce and Bateson, but it is also very specific: selective contextualization means the S.I. connects a particular signifier and a signified (representamen and object), that it more likely does so in a particular context, and just which combinations mostly likely occur depends on the particular S.I. In fact, the S.I. is semiotically defined by what it connects with what. And if we have a lot of S.I.s, then the particular pat-

tern of connections associated with each may itself constitute a still higher order (meta-meta-redundancy) pattern, which we might call the culture of a community, with its divisions among roles and types of people who make different sorts of sense of their experiences.

Note further that none of this reifies the levels: they are simply a logical hierarchy, a tower of abstractions, from “items” or phenomena, to consistent patterns of associations among them constituting situations or contexts, to consistent ways of doing this constituting S.I.s, to ways of differentiating among S.I.s according to different ways of making-meaning, which I have called “cultures” for want of a better term. None of this means that S.I.s have to be people, though they do have to be material systems, or that “cultures” are communities consisting only of people. They are just patterns of practices, of ways of making sense.

But we started out to answer the question of what would be the simplest material system that could do semiosis? That could do selective, indexical, meta-contextualization? And what do we know, then, about such a material system from the foregoing analysis of semiosis as a construal of logical relations or associations?

A material system that can do semiosis has to be capable of distinguishing an A from a B, i.e., it must be able to selectively respond to, or do, different things and processes in relation to the one versus the other. But it cannot be locked into mechanical, 100% predictable, ways of doing this. It has to be able to recognize, classify, and respond to the same difference differently in different contexts. Note that I mean this only functionally, I do not mean “consciously” or “intentionally.” The system has to behave as if it made differential recognitions, selective responses, taking some things or processes as the same for purposes of its functional response (same response to each member of a set), but still be capable of responding differently (to the whole set) in a different context.

Let us go back to the paramecium. Think of it as a system, a black box, with inputs and outputs. There is a molecule in the water around it; it reacts internally to that molecule in a way that starts its cilia moving faster. Which way does it move? Well, as it moves it encounters other molecules, and its membranes can “classify” these molecules as like or different from the first one. Spinning about a bit, there is a higher concentration of these molecules in “front” than “behind,” and it moves that way, and so on, in effect following the concentration gradient of the tastier molecules, as we might say, towards its maximum (the food object). But it is unlikely that a single-celled paramecium forms any sort of representation of the food source, the destination. Nevertheless, it is not moving as a mechanical response to the chemical reaction of the molecule(s) to its outer membrane. It is integrating “information” from multiple molecule encounters across time and space. It is itself much, much bigger than these molecules. And if the situation is different, if it is not hungry, if it has not got much energy reserve for swimming, if it also encounters “threat” molecules en route, then it will behave differently. Its response to the food-indexing molecules is context dependent.

Consider next an analogous case for humans. You walk into a room, you breathe in an aromatic molecule along with some oxygen, the molecule interacts with a membrane of your olfactory bulb, you smell “coffee,” and you do what the parame-

cium does, tracking the scent to its source. Or not, if you do not like coffee, if you are feeling wired from already having had too much, if the social situation is such that it is not appropriate just then, if you are anticipating heartburn, etc.

What is striking in both these cases is that the signified, or more exactly in Peirce's terms, the interpretant, and behaviorally the visible motor response to the interpretant, occurs at a vastly different space-time scale from the encounter with the signifier. A molecule interacts with a membrane on a tiny microscopic scale, but the behavioral reaction occurs at the whole-organism scale, many orders of magnitude larger. And indeed the effect of contextualization, of context dependence, depends, materially, on this. The paramecium finds food by integrating contextual information across space and time ("evaluating" the gradient of the concentration, the presence of other molecules, its current organismic state, etc). So do we. A molecule interacts with a membrane in our nose, on a vastly smaller scale than our response, which is integrated over our whole organism, and across time (in memory and through action); our response occurs adaptively and functionally (or not) on the whole-organism scale.

Materially, semiosis happens across space and timescales of at least a few orders of magnitude (powers of ten), and in complex living systems across many more. And it must. The S.I. must be enough larger, and more durable in time, than the signifiers (the micro-scale interactions), so that it can assess and classify contexts, situation types, involving itself and its interactions in its environment, across space and time, at least up to its own organismic scale, and in some cases well beyond (e.g., in the extended space of geographical exploratory behavior, or on the timescale of long-term memory).

Theoretical biologists such as Jesper Hoffmeyer, Howard Pattee, Stanley Salthe, and others have argued that the emergence of life, or at least of functional cells, is co-occurrent with the first semiosis (see references below). Functionally, single cells make meaning, even if they do not have the complexity to represent it to themselves. Single cells, and maybe even large stretches of membrane, operate as S.I.s. They do semiosis: they take A as standing for B in a context-dependent way. Presumably, they learn, in the sense that developmentally they come to effectively and functionally recognize, classify, and contextualize. There may be very little latitude from the species norm, much of it is hard-wired. But no matter how narrowly constrained, developmentally genes cannot materially determine anything in causal terms. They are just recipe books consulted by the cell's larger machinery, which determines what recipes get cooked when and how often and what happens to the results, and that larger machinery is itself part of an ecology which co-determines along with the cell's internal processes the epigenetic trajectory of gene expression. I think we can at least see development as learning even in the single-celled case, whether there is additional learning beyond "maturity" or not in the simplest species.

Can something still simpler than unicellular organisms or single cells do semiosis? I believe it is possible that the intracellular transcription mechanism that converts DNA to RNA, that in effect "reads" the base-pair code one section at a time, ignoring some stretches, transcribing others, under the direction of various guide

molecules which are much larger than the active transcription sites, and which appear to read DNA segments differently depending on what base pairs appear at far-distant sites on the same, or different, strands, may qualify by our definition. This little subsystem appears to make context-dependent readings or responses across much larger space and timescales than its encounters with the “signifiers” provided by nucleotide differences.

I believe we have here, at least at the cellular scale, a model for the material process of semiosis, of meaning-making, in its most rudimentary form. It is not less primitive in evolutionary terms or system-complexity terms than the rudiments of feeling as we described them in the previous section. They are coeval in evolutionary time, and they are in fact functional aspects of the same process.

What is our human interpretant in the case of the coffee smell? In all, it’s rather complex, and extends across time, but it would include not just the indexical sign relation of the (interpreted) smell to coffee (as substance and perhaps imagined taste) but also the feeling of, say, desiring coffee, and the anticipation of the feeling of well being from drinking the coffee. Or alternatively, the feeling of jitteriness and disinclination to the coffee, or the anticipation of embarrassment if going for the coffee would be socially inappropriate. If we were to exclaim, “Oh, great, coffee!,” this response would be arising jointly from the feelings as well as the interpreted meaning of the smell-as-indexical-sign-of-coffee.

I am not denying that there are different specific mechanisms, neural routes, evoked hormonal and neurotransmitter secretions, associated actions (glancing about, looking to others for confirmation) and interactions, for what we conventionally think of as meaning interpreting and feeling. But there is no fundamental divide, either materially in terms of scales and participating body elements, or functionally in terms of sense-making, evaluation, imagination, and impulse to further action between these two sides of a single unitary process.

We do not make sense without the integration of feeling. We do not imagine meanings unaccompanied by any specific feeling. We do not evaluate by either meaning processes or feeling processes alone, but only by their integration in unitary processes of judgment. The continuous flow of action (even when the action is inhibition of movement) proceeds jointly from meaning-interpreting and feeling processes.

Feelings are dependent largely on the same contextual factors as meanings in any particular occasion. The C contexts we defined for meaning-making and their anticipated associations of As and Bs also include the feelings of these situations and expectations. Different judgments regarding classification or response will be made in contexts where we feel differently about the items or the task (e.g., in terms of their familiarity, desirability or dangerousness, evoked anxiety, need for haste, risk of error, etc.).

The material system substrate of the S.I. for meaning-making is the same as that for feeling processes. How can it not be? There is only one material system around. It may, as with the Umwelt, feel differently on different occasions, or for different purposes, as part of different activities, have different saliences, in part generated by and in part generating the feelings.

The process of meaning-making itself always has a feeling. It may in some cases be the feeling of calm disinterested inquiry (rarely enough!), but it is always a feeling, and more often it is the feeling of curiosity, of anticipation, of effortfulness, or of frustration. It can be the feeling of surprise, or dismay. The very pursuit of reason is driven by desire.

Nor are feelings ever meaningless. The same processes that produce the feelings we feel are there to produce the meanings of these feelings for us. A feeling is an active process, very often an active engagement with the world that tells us something about the condition of our interactivity in that moment, or over some duration. What it tells us would not be useful if it was not also meaningful, and we can say that feelings are semiotically interpreted as signifiers of something more, some conditions and processes in the organism and between us and the environment on still longer timescales than those which generated the feeling initially.

I do not want to push too hard or too dogmatically for a complete identity of feeling and meaning processes. It is enough that we understand them to be of the same order, with no unbridgeable gulf or opposition between them, and always functionally integrated. Nothing that the one does can it do without the other. Feeling and meaning are coeval, coevolved, functionally complementary, co-determined, and co-determinative.

For further background and detailed examples and arguments, the work of Jesper Hoffmeyer already cited is perhaps the best guide to the questions of cellular semiosis. For related perspectives in cybernetics, developmental, and evolutionary biology see (Brier 2008; Salthe 1993). From my own work, most relevant to the topics above are (Lemke 1993, 1995, 2000c).

27.2.4 *Understanding Systems Across Scales*

So far, we have described a way of understanding feeling and meaning as material processes in a dynamic, open system. We have not said much about how to understand such systems, or how the complexity arises in them that is needed for semiosis and feeling, much less for some sort of consciousness of these processes.

I do not want to go into this topic here in too great detail, because I want us to move on to considering the variety of different kinds of feelings, their relations to meaning, and how to productively study meaningful, feelingful, activity.

First, however, a few notions about complex dynamical systems. A material system is a set of interdependent processes, together with material media and things in and through which these processes occur. Such systems may be, for analytical purposes, classified as either closed or open, depending on whether they do (open) or do not (closed) exchange matter, energy, and information with their surroundings. In practice, all real material systems are open to some degree, but the ones that interest us here are those which only exist because they conduct such exchanges. These are variously known as dynamic open systems, self-organizing systems, or autopoietic systems.

The simplest example is a flame, which consists of a rapidly oxidizing chemical process (burning) and a physical, hydrodynamic convection process (heat-driven flow), together with a medium (e.g., gas or wood) which is burning to produce the flame. The flame only exists so long as oxygen and gas are being drawn into it, and energy (heat and light) are being released from it, at a steady rate. The actual shape of the flame, and its temperature and the rate of burning are determined by the interaction of all the processes on which its existence is dependent. The flame “organizes itself” as a functional system through these interactions.

So does a forest fire, a tornado, a hurricane, or a lowly dust-devil. In fact even the pattern of flow and bubbling of a boiling pot of water can be considered such a system.

But this alone is not enough for semiosis. We need such a system to be, in addition, organized across a wide range of spatial and temporal scales, and in such a way that it can differentially respond to different potential signifiers, and do so in a context-sensitive way. I am not sure that it is as yet totally clear just what the necessary conditions are for this, though we obviously know some sufficient ones from the cases of living systems. Is some sort of memory required? Do individual systems need to go through a developmental progression, including initial learning? All our known cases do seem to do this, to one degree or another, but these latter conditions may or may not be necessary.

What we do know is that the cross-scale organization of complex systems of the sort we are interested in happens according to what I call the Three-level Model (developed by Salthe (1993) for discussing the hierarchical organization of biological systems, but likely much more general). In this picture, new levels of organization are added to a system in between prior levels (and not, as is often imagined, on the top or at the bottom of the preexisting hierarchy). The “levels” here are characterized by the timescales of the basic processes that constitute the organization (self-organization) at that level: how long do they take to run their course, or to repeat? It is normally the case that such levels are also characterized by their material extension, e.g., by how extended in space they are, or by how much matter is entrained in their processes. What we will call the “higher” levels are the bigger, slower ones. The lower levels are relatively much faster and smaller (i.e., the units of organized activity are smaller, though there may be many of them).

The classic example is a complex living organism: at the “top” the whole organism, next down, the individual organs, then the tissues that comprise the organs, then the cells that comprise the tissues. If we want to go higher up, then the local ecosystem to which the organism belongs. And lower down, the organelles and membrane structures within the cell; down to molecules, and up to galaxies.

This picture, however, is slightly misleading in that it emphasizes a compositional hierarchy of stuff, rather than a functional hierarchy of processes. It is what the cells and tissues and organs are *doing*, the flow of blood and neural impulses, the saccadic eye movements, and large muscle movements that are the basic units in this model.

What is important here is the nature of the relationships between levels. Each higher level sets *constraints* on what can happen at the level below; the activity

below has to somehow be able to “add up to” or support the functional behavior at the higher level. The higher level is the functional “niche” which the lower one fills, and of course in general it can be filled in many different ways. The lower level is *constitutive* of the higher one, its processes make up what is happening, or can happen at the next higher level. But again there are many possible larger functional wholes that can be built on the lower level’s processes.

So, how do such multilevel systems gain any stability if by going both up and down the organizational hierarchy there are so many allowed combinations? Think of all the brain-scale processes that can be built up out of neural impulses, or all the different kinds of organisms that could fill a given ecological niche. Cross-level stabilization (meta-stability, a dynamic, contingent stability, not a mechanical stability) is achieved by stacking *more than two* levels.

A new level of organization emerges (i.e., self-organizes) between two existing levels, in such a way that (a) it organizes the possible interactions of the processes at the level below in a way that is functionally consistent with the constraints or “needs” of the level above, and at the same time (b) it “buffers” the level above against fluctuations in the processes at the level below that might be destabilizing. The emergence of the new intermediate level alters both the level above and the level below in these ways. Analytically, any level we want to study (the “focal level”) always needs to be situated between at least one level above and one level below it, and its relations and functions relative to those levels need to be specified.

What about going more levels up or down? In most simple physical systems, this is not necessary, or just one more each way is enough, for the basic reason that each next level is operating far faster or far slower than the focal level. If levels operate at timescales of at least 50 times and more often 100 or more times faster or slower than one other, then the transfer of energy (and so of information) between them is extremely inefficient and for most purposes negligible. Hence levels more than two below or two above become practically irrelevant (so long as the system as a whole continues to operate normally).

Consider for example, if you run across hot sand at the beach. The faster you run, the less time your feet are in contact with the sand, and the less net heat is transferred to your foot, avoiding a burn. From the point of view of water running down a river to the sea (months), the pace of the ice ages (tens or hundreds of thousands of years) is negligible, and vice versa. (There are of course exceptions, when some feedback loops produce more rapid changes, as with a cancer from many levels below the organism scale, but which evades the buffering processes in between.)

Biological organisms are already at work from an early stage of evolution in finding ways around this so-called adiabatic insulation of levels. Organism-level events (a sudden emotional shock) can lead to release of hormones that affect individual cells (*en masse*). And we have already seen the reverse case of the coffee molecule affecting organism behavior. How is this possible, despite the general rule against direct interaction between distantly nonadjacent levels of the (process) organizational hierarchy of levels?

It happens in much the same way that culturally, human beings’ current actions (say lifting a stone into place in a building) can be influenced by long ago or long-

term processes (the design of the building), through the mediation of a semiotic artifact: the architectural plans and building instructions. This process, which can be termed “heterochrony” amounts to the “folding” of space and time through the mediation of semiotic artifacts which can be “written” and “read.”

Of course the full system needed to do this involves a community, learning to read and write and interpret architectural drawings, etc. And it also involves feelings: the desire to build, curiosity about the plans, the satisfaction of seeing the building going up coherently, etc. This is true at many timescales of feelings and actions, from the nagging sense that maybe you better look at the drawings again before locking the stone in place, to pride in the finished building.

Before leaving this important discussion of the material systems in and through which meaning and feeling happen, I want to mention another important conjecture about the relations between levels in semiosis-capable (and so feeling-supporting, or aesthesis-capable) multilevel dynamic open, self-organizing material systems. Semiotically, there are two broad, complementary ways in which meaning can be made: (1) by difference in kind or category, and (2) by difference in degree or intensity. Signifiers, signifieds, and interpretants may all be categorical or continuous (Peirce gives a more complex analysis not needed for the current point), and so semiotic relationships may involve all the possible combinations.

Normally we think of these sign elements as types, as meaningful categories or classes of items (things, events, processes). But this view tends to exclude feelings, which are importantly also matters of degree or intensity. In simple cases of indexical meaning, say the height of a column of mercury in a thermometer as an index of the ambient temperature, both the height and the temperature are matters of degree (literally and in the sense of quantity). If it was a digital thermometer, the temperature would still be varying by degree, but the readout would be categorical (either this numeral displayed or that one).

It seems reasonably clear that feelings are in part degree-based interpretants, but a more general question concerns how, as we move across levels in an S.I., type-based organization and degree-based organization are related to one another. The conjecture I want to offer, and which I have called the Principle of Alternation, is that each successive level in the organizational hierarchy re-organizes type-based relations into degree-based ones, and vice versa (Lemke 2000c). This is perhaps because these two kinds of meaning (and feeling) are indeed complementary to one another.

So, for example, the concentrations of neurotransmitter chemicals in nerve cells and synapses, or their associated electrical voltage potentials across nerve cell membranes are matters of degree. But whether or not a neuron fires is a matter of crossing a threshold, and patterns of firing or not firing are matters of type or category (digital, not analogue). If these nerve firings enervate fine muscle movements, say of the lips and tongue and vocal cords, those movements are again matters of degree, as are the acoustic sounds produced, as you might see them on an oscilloscope (sonogram). But when our auditory-brain-language processing system as a whole integrates them over time, what we hear are discrete, contrasting sounds (phonemes of the language) and the discrete words they make up.

What seems to be happening is that in one case quantitative variation at the level below is being integrated over longer timescales and typed or chunked as discrete categorical types for the level above. In the other direction, the accumulation of many discrete types of events is averaged over time to become functionally a quantitative rate or volumetric concentration (recall our hungry paramecium) for input to the level above.

No doubt things are not entirely this simple, but it is remarkable in how many cases this principle of alternation seems to apply. If we look up and down across many levels in any functional process, it seems clear that there are always both matters of type (category, classification, discrete signifier, and/or interpretant) and matters of degree (quantitative variation, frequency of occurrence, intensity of phenomenon) essentially involved. I believe this helps us understand how both the sense of meaning as (implicitly discrete) <As/Bs/Cs//S.I.s> and of feeling as the associated aspect of degrees and intensities of bodily processes always come together in the course of our ongoing animate interactivity.

For additional discussion, see also (Lemke 2000a) and (Serres 1982).

27.2.5 *How Many Emotions Are There?*

Let us return now to some more specifics about feelings and how to analyze them as an integral component of the meaning-making process.

I have been using the term *feeling* rather than *emotion*, or *affect*, to distinguish my conception (a) from more entity-oriented views, that emotions are some sort of “things” rather than processes, and (b) from the common attitude, especially in psychology it seems, that there are a relatively small number of them.

Insofar as feelings arise in and through continuous material dynamical processes in time, they are not necessarily discrete and so also not specifically nameable. Most feelings are unique to the moment they occur, to the state of the body and its interactivity in/with the surroundings. They are “too specific for words.” It is only when we represent them to ourselves in the terms of verbal language, or classify them as belonging to some class of culturally familiar, if not nameable, feelings that we get the sorts of feeling-types that are commonly referred to (and culturally specific). This process of classification and discretizing would appear to be another example of the transformation of the continuous into the discrete.

So one answer to our question would be: there are an unlimited number of possible feelings, each unique in its experienced qualia. We can however still find it useful for some purposes to examine the kinds of classifications of feelings that our natural languages provide, along with the basic phenomenology of their qualities (e.g., intensity, duration, onset, etc.). In doing this we will still find that there are a very large (many dozens) of named “emotions” or affects.

There are a number of approaches in linguistic semantics to the analysis of affect, and one of the most useful is that of James Martin in his theory of Appraisal (identifying linguistic resources for judgment, evaluation, appreciation, and affect as meaning-making options in English). I will refer to this again in the next section

when we consider interrelations of feeling and meaning as processes, particularly in relation to the function of evaluation. Some additional helpful work following in this line of analysis has been done by Monika Bednarek on data from substantial corpora of texts. See (Bednarek 2008; Martin and White 2005).

My own work on the language of evaluation also appears useful here, in that many feelings can be regarded as evaluations of our own present condition, along the general lines of the semantic options for what kinds of evaluative qualities a proposition or proposal can have (Lemke 1998b).

But before jumping to those subtleties, I think we should begin with the basic fact that the most omnipresent and often the most intense feelings are those that seem to monitor large-scale, survival-relevant conditions of the body in its environment. I call these, for now, the bodily feelings, though of course all feelings originate at least partly in the body and are felt in and through it. But feelings such as: alertness, fatigue, drowsiness, hunger, satiety, nausea, pain, dizziness, restlessness, energy, and sexual arousal are particularly common and seem to index conditions that are widely recognized as being at or near the organism scale.

Of course these feelings can be semiotized and taken as signifiers, as signs of various possible conditions, effects of the environment, motivations toward action, etc. In fact, once we are in the habit of using language to mediate our representation to ourselves of experiences in general and feelings in particular, it is hard *not* to do so. This leads to the possibility of distinguishing between the qualia of the feeling itself and the meaning or interpretation, including the evaluation, we attach to it and that meaning-making will also evoke in turn a further, and generally a different feeling as well.

Some of these bodily feelings index a general readiness for action, or lack of it, but they do not for the most part point us toward particular actions or targets for those actions. There are other feelings, however, which certainly do, and a subset of these has often been identified as being the “primary” emotions. I think the original intuition about what makes them primary was, from Darwin, that humans share these with other animal species (though I doubt that this is really the case). And following that, that these particular feelings have the most direct relevance to survival and adaptation to threats and opportunities in the environment, or at least that of protohumans in some imaginary “wild” environment. Once the list was canonized, subsequent researchers have invented their own justifications for it. On the whole, however, I find the designation of a small number of named feelings as more “primary” than all the others very unhelpful.

Darwin (1872/1998) is often blamed for the shortest list: anger, fear, surprise, happiness, unhappiness, and disgust, though I think William James (1884) may be a more likely source, as Darwin’s table of contents lists 34 emotions by my count. Darwin was reasoning from the visible expressions of presumptive emotions in animals (dogs, monkeys, etc.). The shorter list has its modern version in, say, Tomkins (1995): interest, enjoyment, surprise, distress, fear, anger, disgust, contempt, shame (nine items). Or Roseman (1984) who has 18, clustered by some dimensions. Lazarus gets it down to six again: anger, guilt, fear, sadness, happiness, hope (Lazarus and Lazarus 1994). And there are many more such lists, but in all cases they are

aiming for a universal, i.e., cross-culturally valid set, and their criteria of classification acknowledge little or nothing of culturally specific traditions or local conditions (except, obviously, their own).

It seems incredible to me that anyone could imagine that feelings are universal across culture and history, much less across species, when it seems perfectly obvious that feelings to which we give the same name do not feel the same to us on different occasions across our own lives. Nor does experience teach us that different people feel love or anger or fear, much less pride or guilt, in the same way. And cultural anthropologists, not surprisingly, have no trouble identifying named emotions in non-European cultures that hardly even make sense to us, much less ring a bell of familiar recognition (e.g., Lutz 1988).

The cultural and linguistic classifications of feelings are not the feelings themselves and have only a rather tenuous relationship to them. They can be used as guides to the experienced facts, cumulated in the wisdom of natural languages over centuries, that feelings are of different kinds, and that the circumstances in which distinct types, or instances which we learn to feel as being similar, most often occur are often but hardly always themselves distinguishable.

Nonlinguists, and I am afraid even linguists who have not done deep studies of the semantics of extended text and discourse, often fall into the fallacy of looking for the best equation of semantic items and feelings at the level of individual words or short phrases. That is not reasonable. Feelings are highly specific, indexing as they do the condition of a very complex, multicomponent, multilevel, interacting system-in-a-surround. Of course, they can be classified into cultural categories, but that tells us relatively little about what they are or how to distinguish one from another at the level of specific instances of feeling.

A better approach derives not from the semantics of words (or from even more abstract, putative semantemes) but from the semantics of *extended text*. Read the poets and the great literary writers if you want to get some sense of how the richness of our feelings can be represented in language. Language that itself evokes feelings in the reader (or listener) comes far closer to the specificity of actual feelings than can the mere names of broad, abstract categories. We will return to this later in a concluding discussion of the analysis of feeling-and-meaning through rich media data, such as video recordings.

Note in passing that what I have just said about feeling is equally true of meaning. Every occasion of meaning-making makes a meaning that is extremely specific and unique to that occasion. Extended text, of the kind that is not likely to be repeated on any future occasion (except by quotation) comes far closer to making such meanings in overtly verbal form than single words or very short texts or utterances.

But the classic “Darwinian” emotions do have something in common, and do point us to some useful features. Fear is specifically fear of something (generalized anxiety is different, more akin to the bodily feelings above), anger is anger at something (or someone), desire is desire for something, disgust is disgust at something, and likewise there is surprise at something, happiness or unhappiness about something (distinct from a more general euphoric or dysphoric feeling). And they each also tend to be strongly associated with an action directed toward their respec-

tive objects: to flee what we fear, to attack what we are angry at, to seize what we desire, to obtain more of what makes us happy and avoid what makes us unhappy. (Surprise does not seem to fit this pattern, unless we consider preparation for flight a response action, and that does not seem to be as general a response as the others.)

We can also feel guilty about something, but what does that impel us to do? Nothing very obvious. We can feel shame about something. Does that impel us to, say, hide, in the same way fear impels us to flee or anger to attack? It does not seem so. What, if anything, does pride impel us to do? Preen? What does hope makes us want to do? None of these fit the pattern of the object-oriented emotions; they are not emotions in the same sense as the others (and neither I think is surprise for this same reason).

The true *emotions*, as I will try to more carefully use the term now, are feelings about our relationship to a specific object (target, person) in the environment that impel us to action in some very common way and to a powerful degree. Painting these matters in the very broadest strokes: to avoid or flee (fear, panic, unhappiness, disgust) or to seek out (desire, happiness, anger) and in coming to the target to nurture it or to destroy it. The very term e-motion has long had something to do with motion, action, motivation, and in the usage here will keep that sense specifically. We are moved by the emotions, *sensu stricto*, to particular types of actions.

But what of the other feeling categories? What of surprise, anticipation, pride, hope, guilt, shame, or the feelings of nobility, courageousness, self-confidence, uncertainty, boldness, shyness, willfulness, arrogance, humility, remorse, reverence, or scorn? And there are quite a few more. Take a good thesaurus (especially of the original Roget's variety, where words are organized by their meanings, not by their spellings) and you will find *hundreds* of named feelings. Try it yourself with such linguistic frames as: "I feel very" or "The feeling of ..." or "It felt very ..." and see with how many terms you can complete the sentences.

Doing this myself, I have compiled a hopefully representative Big List of over 250 named feelings, following just the first two such frames (I am just starting to explore the third).

Of these, 20 or so seem to fit the pattern of the bodily feelings; they index general bodily conditions, do not identify a specific external target or source, and do not impel us to any specific action. There are also others that fit these criteria, but where some evaluative dimension beyond simply a general positive or negative affect seems specified to some degree (e.g., general anxiety, calmness, depression, boredom, strength/weakness, etc.).

The next group are the emotions proper as I have just defined them. As named feelings, they have connotations of degree or particular evaluations (e.g., dread, panic, terror as high degrees of *fear*, wariness or apprehension as mild degrees; suspicion as adding further evaluation). Variants of *anger* include fury (high degree), feeling miffed (low degree), hostility, jealousy, and indignation, and so forth. A substantial amount of further semantic analysis could be done to categorize these variants according to their typical meanings for us, and so also much further research to understand how they specifically feel to us. This group comprises about 75 named feelings in English.

All the rest are what I might term the “Higher Affects” along the lines of Vygotsky’s notion of the higher mental functions. They are “higher” in the sense that meaning-based evaluations and cultural variation seem more implicated. Many of them are self-evaluative according to some cultural criteria. They include feelings such as hope, disappointment, wonder, pride or nobility and generosity; feeling that you are self-confident, attractive, successful; or feeling extravagant, generous, guilty, virtuous, etc.

All of these feelings are explicitly or implicitly evaluative; they all tend to feel good or bad, to some degree (allowing for one neutral “Satisfactory” state which feels neither way and tends not to be noticed except by its absence). Some are evaluative towards an “outside” object (i.e., evaluative of our relationship to something we are or may be interacting with), and some are more evaluative of our general “mood” or current condition, or simply descriptive of it, but with an evaluative connotation. In common parlance, these seem “self-evaluative” (e.g., the feeling of pride, of stubbornness, of self-confidence, shyness, mirthfulness, reverence, humility, and many more such).

In the next section, I will describe further this important area of convergence between our cultural meaning categories and those for feeling types: the domain of evaluations.

27.2.6 Evaluations: Meaning and Feeling

What kinds of evaluative meanings are there? Somewhat surprisingly (and surprise is in fact one of them), it turns out that if we are evaluating states of affairs, happenings, events, or generally propositions (and mostly similarly for evaluating proposals), there are only about seven different semantic dimensions on which propositions can be evaluated. Another way of saying this is that propositions only have seven possible properties, and they are all evaluative properties. This has been known in linguistics for a long time for special cases (e.g., Greenbaum 1969), but only recently I think understood in its full significance and verified by large-scale corpus studies (Bednarek 2008; Francis 1995; Lemke 1998b; Martin and White 2005).

So what are these dimensions? They are: desirability, appropriateness, probability, usuality, importance, comprehensibility, and seriousness. If we are evaluating a proposition like “John is coming.” We can say, for example:

- It is very good that John is coming.
- It is really highly inappropriate that John is coming.
- It is very unlikely that John is coming.
- It is really surprising that John is coming.
- It is very important that John is coming.
- It is entirely understandable that John is coming.
- It is really funny that John is coming.

In all cases there is a polarity (good/bad, in-/appropriate, un-/likely, un-/surprising, understandable/mysterious, funny/serious); there is degree (very, highly, slightly, etc.); and there are of course subtler variations of meaning within these categories

(good, desirable, wonderful, etc.; obligatory, appropriate, forbidden; probable, possible, certain; comprehensible, mysterious, confusing; funny, serious, ironic, and the like).

Similarly, there are feelings that correspond to these same semantic categories:

- I feel good, desirous, desirable, etc.
- I feel guilty, proud, ashamed, etc.
- I feel certain, doubtful, convinced, etc.
- I feel surprised, astonished, bored, etc.
- I feel important, reverential, scornful, etc.
- I feel confused, mystified, enlightened, etc.
- I feel serious, amused, mirthful, etc.

As noted earlier, single words are often not really good enough, and even more often are not entirely idiomatic in expressing these categories of feelings. There are also some other semantic components which combine with these basic dimensions (the different basic kinds of evaluations), such as whether we are evaluating ourselves, others, general conditions, relationships, etc.

All feelings appear to be evaluative at least at the basic level of polarity: good or bad, desirable or undesirable to some degree. So, for the bodily feelings, nausea or dizziness or hunger feel undesirable; alertness, satiety, elation, the reverse. Among the emotions proper, if we consider say “I feel afraid, anxious, threatened, panicky” and the like, they are clearly undesirable, but they are also felt as important, may be further evaluated as appropriate or inappropriate, most likely as unusual (though not always), and as serious, and may range from comprehensible (I know why I feel this way) to confusing. Such feelings are also generally certain, rather than mere surmises about which we are in doubt regarding the fact of whether we feel them or not.

Anger can range from desirable (justified anger) to undesirable (irrational or uncontrollable anger); likewise regarding its appropriateness; the feeling is certain, usually not surprising or mysterious to us (though possibly so), definitely serious, not funny, and almost always Important.

Desire may or may not be desirable, appropriate, surprising, mysterious, but it is almost always serious, certain, and important.

And so on. Feelings are not just evaluations, they are also in some sense direct reports on the condition of our standing in the world; we have them because by and large they are important for our survival and our choices. Ignoring or suppressing feelings, however appropriate for some types of people in some cultures, usually does not end well for the organism, and often also not for the community.

There are other categories of feelings that do not so easily fit this scheme of the seven basic dimensions of evaluation, because these dimensions are specific to the evaluation of propositions or state of affairs, and not to, say, aesthetic judgments or evaluations of people. One important such category, for which there is an analogue in the semantics of evaluation, is capability. Sometimes regarded as an 8th dimension, the analysis is complicated by factors I am leaving out here (propositions vs. proposals, realis vs. irrealis). But certainly, we have feelings of being more or less capable, mentally, emotionally, physically, financially, etc. We may feel powerful or powerless, confident or shy, even lucky or unlucky, not just in general, but in specific moments and situations.

Insofar as meaning and feeling together serve the function of evaluation (and through it of choices to be made along the course of action, including the activities of reasoning, problem solving, etc.), they are mutually evocative. Meanings are made by the deployment of semiotic resources, such as language, visual depiction, gesture and movement (regarded as signifiers), music, actions, and indeed feelings as such.

Contrary to some other, more mentalistic views about meaning-making, I would deny that there is any *lingua mentis* as such, apart from imaginings of speech, text, visual representations, and these other semiotics. “Thoughts” are precisely these imaginings, or we may say, such semiotic actions without their full motor expression (though including, I think, most often some partial activation of the motor neuron pathways). “Concepts” are most often verbal semantic expressions, though in some cases, perhaps most, conflated with certain feelings, and perhaps also integrated, as in the case of many scientific concepts, with mathematical expressions (a semiotic resource derived from natural language), diagrammatic or graphical representations (considered dynamically, as processes), and even physical operations (e.g., measurements). Those seeming thoughts which do not appear to have linguistic or visual content (or any of the others so far mentioned) are usually semiotic expressions in which the signifiers are in fact feelings and imagined proto-actions (i.e., actions without full motor expression).

Somatic states, or conditions of the organism-in-interaction, are as much produced by the affective aspects of languaging and symbolic visualizations, etc. as they are the sources of them. We do not just use language and other semiotic meaning-making resources to interpret and evaluate somatically based feelings, we also, by using semiotic resources and imaginative capacities generally, evoke feelings in ourselves and others through the affective connotations of our symbolic productions, and these in turn stimulate associated somatic states. It is very important to understand this circularity or reciprocity between meaning-and-feeling and the conditions felt and meant. Making meaning changes how we feel and how we are, both physiologically and in terms of how we are interacting with the world. Semiotic artifacts or works (texts, images, video, etc.) evoke meanings and feelings through the process of our interaction with them, which is at the same time both a material interaction and a semiotic and “aesthetic” (i.e., feeling-making) one. As we interpret a text, we are producing not only meanings but feelings, nor is it possible not to, because the same material processes that make one make the other as well. This is especially clear if we consider that a different interpretation of the meaning will be accompanied by a different feeling.

27.2.7 Chronopaths: Meanings, Feelings, and Media

I first felt the need to examine the integration of feelings in the meaning-making process when I began to study complex, immersive, over-time experience in and with computer and video games. I undertook this study because these games were and are the most advanced multimedia integrations of several semiotic resource

systems: visual spaces, movement and gesture, action, music, speech, text, etc. I wanted to know: *How can these various semiotic systems be combined?* and *What kinds of meanings are made through their combination that exceed what can be made with each separately?*

It was already clear to me that:

1. We never make meaning through only one semiotic resource at a time, because the materiality of all signifiers implies that they can always be interpreted in relation to multiple semiotic systems (e.g., writing is both verbal and visual, speech both verbal and paralinguistic, etc.).
2. The space of possible meanings is enlarged combinatorially when different sign systems are combined, such that the meaning of any one combination (really of the multimodal interpretant that is constructed) is thereby all the more specific, being one out of a much larger possible set.

This is how, for example, meanings that are more specific than words can say are easily constructed semiotically. For more detailed discussion, see (Lemke 1998a).

But it is also especially clear in the case of multimedia digital games (video-games, computer games, etc.) that the meanings we make as we play through them depend heavily on our feelings. Do we feel fear? Anger? Apprehension? Anticipation? Do we feel under the pressure of time or important consequences, or at leisure? We make different choices according to our feelings, as much so as according to our meaning interpretations of the scene presented to us in the game and our interaction with its virtual world. You cannot analyze the progression through time of the meanings made without taking into account the feelings made as well, nor are these entirely separable, as discussed above. Different interpretations, different conjectures and imagined possibilities carry with them and produce different feelings, and these feelings in turn influence actions, which change the game situation, leading to new or revised interpretations, and so on and on, just as in ordinary life.

Experientially, there is a trajectory through time, space, and situation, which is wrought by our own actions, feelings, and meaning interpretations. (Insofar as such a trajectory also crosses boundaries of genres, situation types, etc., I have previously called it a “traversal.”) This phenomenon, which is of course an exact analogue of our experience in daily life or in encounters with any semiotic medium (text, painting, film, etc.), called to mind for me Mikhail Bakhtin’s (Bakhtin 1981) notion of the *chronotope*.

For Bakhtin, a chronotope characterizes a genre of fiction, or narrative: the typical way in which action and characters move from place to place or scene to scene (Greek: *topos*) through narrative time (*chronos*). In his theory, different fictional genres in different historical epochs had characteristically different chronotopes. But this notion can also be applied to an individual work or text: the trajectory of movement of action and characters from one scene, setting, place, challenge, opportunity, interaction, etc., to another. If we emphasize that in doing so it is important to pay attention not just to the meanings being made (who does what to whom) from place-and-time to place-and-time but also to the feelings being produced (in the characters, in the reader, in the imagined author or teller of the tale), then we might

use a similar term: the *chronopath* (Greek: *pathos*, feeling). We will mean by this term the text-specific or genre-typical pattern of feelings evoked in the course of narrative movement through time from scene to scene, situation to situation, activity to activity.

Of course, I should say here not simply feelings, but as we now understand their unity, *feelings-and-meanings* made and evoked through narrative time in and across scenes.

I believe that this is an essential tool, or framework, for semiotic analysis of our experience with media, and also for the design of media intended to evoke or support certain kinds of experiences (meanings-and-feelings). Of course, many other tools are also needed, from theories of narrative as a semiotic form, to linguistic and multimedia tools for specifying the meaning potentials of the words, images, actions, etc., presented or created, to a more exact means of analyzing the kinds of feelings coproduced with the meanings, and the kinds of meanings coproduced with various feelings in particular contexts.

This approach, it should be clear, applies not just to fictional narrative media but also to the analysis of rich media records, such as video, of actual human activity of the sort being collected today in many social science and biomedical research programs. Of course all the activity we perform in games, or even in making meant-and-felt sense of a text or film, is equally real material-and-semiotic activity, but the constraints, conventions and probabilities, as well as the affordances and opportunities for meanings and feelings differ across media and types of activity.

While I have so far done some small scale analyses of this sort, there is much more to be done, and hopefully much more to be learned by filling in the very broad programmatic outline which I have sketched in this paper. I hope that on this basis, a better start can be made. For further discussion of experienced multimedia, particularly computer games, and chronotopes, see (Lemke 2005b, 2009a, 2009b). On trajectories and traversals, see (Lemke 2005a, 2013).

The work and value of semiotics as a science of how meanings-and-feelings come to be made on and across occasions seems to me to be greatly enhanced by taking the broad, bio-semiotic approach that I have advocated here. Further, developing both its foundations and its applications presents many opportunities for rewarding scholarship and, one may hope, for making our lived experience richer and more richly understood and our communities more just and better able to continue re-inventing themselves with meaning and feeling.

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Jay Lemke is a senior research scientist in the Laboratory of Comparative Human Cognition (LCHC) and adjunct full professor of communication at the University of California, San Diego. He was formerly professor in the School of Education at the University of Michigan, affiliated with the Ph.D. programs in science education, learning technology, and literacy language and culture, and professor and executive officer of the Ph.D. Program in Urban Education at the Graduate Center of the City University of New York, where he is Professor Emeritus. Jay is the author of *Talking Science: Language, Learning, and Values* and *Textual Politics: Discourse and Social Dynamics* as well as of over 100 other scholarly publications in the fields of discourse linguistics, multimedia semiotics, social theory, and science and literacy education. His current research focus is on the integration of feeling and meaning in multimedia activity systems and Design Research

Chapter 28

Preserving Spaces of Uncertainty: Bioremediation, Urbanism and the Sporting Spectacle

Amanda De Lisio

28.1 Preserving Spaces of Uncertainty: Bioremediation, Urbanism and the Sporting Spectacle

28.2 Introduction: The Need for Unstructured Land in Cities

If the urban condition, its architecture, landscape and design, can offer a text to examine, the text of cities is in constant flux. The staging of a sport mega-event will exacerbate this state in the construction of new, ultramodern sporting facilities. More often than not, as the literature will attest, event-related construction will demand the removal of infrastructure (whether natural or woman/man-made) from host cities. The site of a new stadium will be forced to become what McKee (2008) in his article on the local restoration of New Orleans, post-hurricane Katrina, would describe as an “ecological tabula rasa”, a return to the backside of heavily designed, controlled and scripted spaces of everyday life. Even the soil, the mineral foundation of the site, is often in need of careful bioremediation to erase the (so-called) impurities of the past. In their piece entitled, “1440: The smooth and the striated”, Deleuze and Guattari (1987) describe striated space as that which is typical of the highly organized urban environment we (in)voluntary navigate daily—composed of orderly, grid-like patterns of rectilinear, tall and grey buildings, networks of closed-circuit cameras, police patrols and private security guards (Malins 2007). Nevertheless, as Deleuze and Guattari indicate, even the most striated of urban space can create opportunities for smoothness. Graffiti-writing, skateboarding, parkour, littering, pollution and decay—all constitute a rupture, a moment in which we bear witness to the fanatical maintenance of social order and realize our existence as both the steward and cotenant. Mega-event-led urban renewal—and the barren, derelict and un(der)developed space, it will (re)territorialize within our cities—can offer us

A. De Lisio (✉)

Faculty of Kinesiology and Physical Education, University of Toronto, Toronto, Canada
e-mail: amanda.delisio@utoronto.ca

a moment to envision the world outside the homogeneous and prescriptive nature of our urban environment. And within our current political economic state, it is this moment/space, we need.

Space, according to Deleuze and Guattari, is a mixture of both smooth and striated. The two cohabitate and form the midst of the urban muddle, characterizing the land as well as the bodies that are attracted (or attached) to it. Inherent to the urban environment, there is an always-already tension between smoothness and the maintenance of order demanded from striation. Therefore, the relation between the two should never be considered hierarchical. It is, rather, more conducive to work to balance creative lines of flight (smooth space) with doses of caution (striated space). Deleuze and Guattari call us to realize “how the forces at work within space continually striate it, and how, in the course of its striation, it develops other forces and emits new smooth spaces” (1987, p. 500). Striated and smooth space enables and/or constrains possibilities for subjectivities, establishes authority, generates particular knowledge(s) and reinforces the limits through which conformity is (re)produced or resisted. As such, we should: “Never believe that smooth space will suffice to save us” (Deleuze and Guattari 1987, p. 500). Indeed, it is the likelihood for capitalism to become “smooth” that should cause the most alarm.

At this juncture, in the discussion of Deleuze and Guattari, it is useful to consider the contribution of Jacques Derrida. In elaborating on the Heideggerian concept of “sous rapture”, Derrida is able to theoretically motivate a closer examination of (un)erasable histories—those sustained within land that is seemingly vacant but can never be erased. In a deconstructed state, urban space is vulnerable and fleeting, constantly threatened by the permanence of capitalism, but memories are more difficult to capture. The histories of land live on through people and need to be shared. The remediation of a particular site (and its histories) is a chance for cities/citizens to reconsider the relation between smoothness and striation. In so far as future striation is recommended, a blank slate—and the imaginaries it will breed—is the crucial crux between realizing anticorporatist imaginaries and rebuilding the inequalities of our past.

Relative to the discussion of hospitality, it is also Derrida and Dufourmantelle who have described the manner in which the private, clandestine, non-state network (smooth space) has become homogeneous with the network of policed, state surveillance (striated space), rendering the two mutually impermeable (2000):

...current technological developments are restructuring space in such a way that what constitutes a space of controlled and circumscribed property is just what opens it to intrusion. That, once again, is not absolutely new: in order to constitute the space of a habitable house and a home, you have to give up a passage to the outside world [*l'étranger*]. There is no house or interior without a door or windows. (2000, p. 61)

The genius of Derrida lies within his seemingly effortless propensity to lead his reader to paradoxes that, however incompatible, force them to think through inconsistencies. This is similar to the paradox Deleuze and Guattari offer in relation to smooth and striated. In relation to the laws of hospitality, there are multiplicities of differentiation according to the right as outlined by the state. That is, it is the state that will institute and enforce the system through which people are classified as citi-

zen or non-citizen, citizen or foreigner and host or guest. Politically, such a distinction will allow each individual to be identified, and from there, included or excluded based on the law which has been created. In offering hospitality, in welcoming the other, the host identifies the guest and establishes the condition under which he/she must act. The foreigner occupies a crucial role in this space. It is through the foreigner that the citizen can come to compare himself/herself. Identities are established and understood in relation to the other.

According to Derrida (2005), hospitality can be divided into two distinctive categories of law. “There is a double law; to calculate the risk, yes, but without closing the door on the incalculable, that is, on the future and the foreigner” (p. 6). The first is limited and conditional. It is a product of religious tradition, civil society and the state. It will place the individual (both the host and the guest) as a subject in law that must assume certain responsibilities in accordance with that right. The second is, therefore, unlimited and unconditional; the hyperbolic, infinite act that is offered to the guest, prior to his/her arrival and consequentially, offered irrespective of identification or status.

Hospitality consists in doing everything to address the other, to accord him, even to ask him his name, while keeping this question from becoming a “condition”, a police inquisition, a blacklist or a simple border control. This difference is at once subtle and fundamental, it is a question which is asked on the threshold of the “home” and at the threshold between two inflections. (Derrida 2005, p. 7)

In such a case, we cannot forget to aim for this absolute, unconditional act of hospitality. If we do, we will lose hospitality—the fundamental ethic—to a discourse (e.g. economy, security) that will further augment closure. The idea of absolute hospitality should be at work, haunting us, all the time. When hospitality is written about, it is written with condition, yet its impulse is unconditional, limitless. This impulse will desire to break the conditional, limited law—to be lawless, above the law and outside the realm of reason:

Doubtless, all ethics of hospitality are not the same, but there is no culture or social bond without a principle of hospitality. This principle demands it even creates the desire for, a welcome without reserve and without calculation, an exposure without limit to whoever arrives [*l’arrivant*]. Yet a cultural or linguistic community, a family, a nation, can not not suspend, at the least, even betray this principle of absolute hospitality: to protect a “home”, without doubt, by guaranteeing property and what is “proper” to itself against the unlimited arrival of the other; but also to attempt to render the welcome effective, determined, concrete, to put it into practice [*le metre en oeuvre*]. Whence the “condition” which transforms the gift into a contract, the opening into a policed pact, whence the rights and the duties, the borders, passports and doors, whence the immigration laws, since immigration must, it is said, to be “controlled”. (Derrida 2005, p. 6)

It is this desire for absolute hospitality that is forced to conform to neoliberal hosting strategies in the same manner that foundational, humanitarian qualities of the event—those that incite celebration and fuel enthusiasm—are reworked in favour of an economic scheme. Nevertheless, the work of Derrida, Deleuze and Guattari should be written into the mega-event literature. The discussion herein will call on the theoretical contribution of Deleuzian and Derridan postmodernist theories in

the examination of barren, leftover urban space. The curiosities that have provoked such an effort are interested in the extent to which cities could be better served in the preservation of wasteland rather than the building of modern sporting facilities—the latter of which have done little to accommodate the basic necessities of those living in need, in favour of the gluttonous desires of an elite few. Such an effort will call us to welcome the other with hospitalities that do not falter due to status.

28.3 Erasing Histories, Constructing (Another) Bourgeois Haven

Aside from fueling further striation within “world-class” cities, international (sport) mega-events—and the associated urbanizing processes triggered—need to do more in terms of offering cities a model of socially just and environmentally sustainable development. Given the extent to which local communities wreak political, environmental, sociocultural and economic havoc in order to host an international (sport) event, a critical discussion that does more than celebrate such a massive human and financial investment is needed. A discussion of this nature will consider the extent to which cities could be better served in the preservation of toxic, barren wasteland rather than modern sporting facilities or another condominium development which does not consider the basic necessities of those living in need but rather the gluttonous desire of an elite few. The intention of this chapter is thus to emphasize the need for cities (and the bodies within) to reclaim and protect unstructured local land, filled with possibilities, in the absence of an authentic commitment to socially just and environmentally sustainable development.

For over a decade, political figures, business elites and sport advocates in Toronto have aggressively chased an internationally recognized sport mega-event to stimulate the renewal of its once barren and toxic waterfront (Oliver 2011). A sporting event of this kind demands a certain level of material (e.g. infrastructure construction) and immaterial (e.g. social and/or economic policies, broader political agenda) urban renewal. The promise of a world-class event is perceived as a chance for the political parties in power—within the Greater Toronto Area—to attract private investment to the waterfront and help resolve: (1) jurisdictional fragmentation resulting from competing responsibilities of various public and private agencies (Kipfer and Keil 2002); (2) the continual decline of industrial factories and port-related industries and (3) the economic possibilities for non-industrial land or rather, concern over the privatization of the waterfront (Desfor 1993; Laidley 2011). Indeed, the waterfront has been a focal site of renewal in each mega-event bid. The legacies outlined in the bid book for the 2015 Pan-Am event affirmed this:

The Pan American Village will create a new community on Toronto’s waterfront, a neighbourhood that is economically, socially and environmentally sustainable. It will address a number of public policy objectives, including the reduction of urban sprawl, the creation of affordable housing and sports facilities, enhanced access to public transit and limiting the environmental impact of new development. (Toronto 2015 Organizing Committee 2009, p. 199)



Fig. 28.1 West Don Lands, post-bioremediation, Toronto, Ontario, Canada. (Cameron 2007)

The site of the 2015 Pan/Parapan American Athletes' Village will be located on the West Don Lands of Toronto's waterfront (see Fig. 28.1). Given this (somewhat) new attention, the barren lot is now under a swift transformation from an area once filled with uncertainties to one that is reclaimed with a certain intention in mind. The site is said to "showcase a modern community where design excellence, sustainability and technology come together" (Waterfront Toronto 2011) and offer "a kind of Yorkville on the water" (Director of Waterfront Toronto, John Campbell, 2011). Such a vision will not only guide the construction of the site but also affect the bodies that later come to inhabit the area (Greene 2003).

In the race to be crowned host, bid cities like Toronto routinely demonstrate a convenient level of amnesia and dismiss the failed legacies observed in former host cities in an effort to detract from anxieties about the future. For Toronto, whether or not the mega-event investment will be used to create the affordable/assisted, residential complexes promised is still unknown. Also dismissed from the discussion of soon-to-be-built ultramodern facilities are the histories of the land or the realities of those who once maintained it and have since left. Those following the work of Lefebvre (1991) maintain that space is never a given or "empty box" to be filled (Soja 1989). It is culturally constructed and therefore inseparable from both the productive force and social division that work to mould it. Even in a somewhat vacant state, unstructured spaces have stories and, in silence, remain unknown and undervalued. These stories represent the externalities of spatial boundaries and the manner in which marginalized social processes find their distinctive space—often outside of the hierarchical organization of space, time and energy—in open, derelict, superfluous space throughout cities (Cupers and Miessen 2002). I was curious to learn more about these stories (now under erasure) and honour them in this work.

The site of the 2015 Pan/Parapan Village is situated on the outer eastern edge of the downtown core on an 80-acre site next to the Don River in the waterfront district. Upon the founding of Toronto in 1793, the area was an extensive crown reserve maintained for public use. Initially “The Park”, as it was referred to in public documentation, extended from Berkeley Street to the Don River and stretched from the waterfront to as far north as Queen Street. The land remained intact and used for public open space until 1830 when it was subdivided and sold to finance the construction of the new provincial hospital. Soon thereafter, the parkland was converted for housing and industrial use. As the population increased, schools and churches were also built. In order to accommodate the amount of construction, the Don River was straightened and Taddle Creek was buried; refineries, rail yards, cement works, scrap yards, steel fabricators, salt storage, varnish factories, foundries, lumber yards and automotive warehouses were built on the land. Further pressure to expand the railway led to the removal of most residential properties. Industrialization in Toronto increased 243% between 1891 and 1911; with the rapid establishment of private industries and port-related activities, the population in the downtown core grew from 208,040 to 700,000 by 1951. At this time, the post-industrialization of the waterfront and suburbanization of the Greater Toronto Area had left a number of industries once situated on water forced to sell their land for future commercial and/or residential use (Desfor and Laidley 2011). In 1987, the provincial government, at the urging of the mayor of Toronto Art Eggleton, expropriated much of the land leaving behind open space and a handful of heritage buildings later adapted for a range of art-related and media-based facilities (Desfor et al. 1988).

In order to alleviate the subsidized housing crisis, a plan was proposed by the city to build a mix of subsidized and market-priced housing; however, the project failed to attract private interest. The industrial use of the land had left much of the soil contaminated and in need of expensive bioremediation prior to the construction of a new residential area. In addition to the toxic soil, there was fear that the area could flood. In 1992, with the financial investment in the land made on behalf of the local and provincial government at over \$350 million, the real estate market collapse and no interest from the private sector, the Ontario provincial government decided to cancel the (re)development project and the land sat deserted (Palango 1992; Henderson 2006).

In the midst of the economic crisis, a number of people who were homeless and displaced congregated along the waterfront in Toronto on a 5.54-ha site at Cherry Street and Lakeshore Boulevard with salvaged and recycled material, to build their own (temporary) housing solution. The result of this was the swift construction of a makeshift, livable community and in time—an entire self-governing tent city (Fig. 28.2). Shaughnessy Bishop-Stall (2004), a journalist who voluntarily abandoned his middle-class lifestyle to live in the tent city for a year and later detailed his experience in a book, “Down to this: Squalor and Spendour in a Big-City Shantytown” recalled an avenue for those otherwise deemed “social misfits” to participate in transforming a 27-acre tract of garbage-filled land into a mini-city:

I couldn't have done it [built shelter] so fast if it weren't for Mike, really the only guy so far who's given me a hand, like he's trying to realize his utopia—the Amish village of his own



Fig. 28.2 Tent City (1998–2002), Toronto, Ontario, Canada

mind. He's a terrible carpenter, but he stayed through the rain and smiled good-naturally every time he hit his thumb or fell in the mud. "See", he said as the sun went down. "People help each other here". (Bishop-Stall 2004, p. 35)

In September 2002, the owner of the property, Home Depot, evicted residents from the land. After the eviction, the city of Toronto provided shelter for the (approximately) 110 people removed. The site was secured with a "three-metre high chain link and barbed wire fence, high intensity lighting and a crew of around-the-clock guards" (Bunce and Young 2004, p. 214). In 2005, the land remained undeveloped, and home depot has since opened another downtown outlet. (Fig. 28.2)

Embarrassment should have blazed like an urban wildfire across local communities as the *New York Times* featured the tent city in an article about the demise of Toronto's livability (Krauss 2002). Instead, few stood to protest (and now, even fewer remember) the violent removal of a sizable, homeless population from the downtown core. As Bunce and Young (2004) suggest, there is a parallel between the eviction of the homeless from the site and the bioremediation of the soil on the waterfront. Both beckon a naturalizing, sanitizing process that is imagined to cleanse the land but, in a Derridian sense, the purification sought can never be achieved. In accounting for (rather than dismissing) these memories, one can better examine "the causality of its effects, its bias, its exclusions—rendering an account of what makes memory, disrupts it, constructs its limits and openings, how and why it favors" (Trifonas 2002, p. 72). This is a process that will render a new field of interpretation, a limitless horizon or "horizon of (im)possibilities" that was, at one time, unthought or unthinkable—an ethical consideration that is at once both the "debt and duty" of this work.

28.4 Mega-event Re-gentrification/Generation: Stories of a Mega-letdown

The revitalization or creation of facilities in anticipation of an international event is a controversial task for all host cities and tends to favour the capitalistic visions of certain groups over the basic human needs of others. Research on host cities' post-event legacies has documented the near 700,000 people evicted in Seoul, Korea, under the guise of local beautification, due to Olympic-related urbanization. Similarly, in Barcelona, Spain, the housing complexes reserved for low-income families were demolished to make room for further Olympic-esque construction (see Hughes 1992; Vázquez Montalbán 1990/1992). The slum settlements in Aspropyrgos and Ano Liosia were demolished under this law, leaving families with no home and a mere 100,000 drachmas (US\$ 266) as compensation. To rub salt into the wound, new facilities were neither built on either site nor the old restored (COHRE 2007). Even if properties are left untouched in the construction of new facilities, the influx of people into an urban environment on the brink of a mega-event will pose an additional threat to low-income, rental communities. The increase in tourism causes a fluctuation in the demand for single room occupancies (SRO) and increases the likelihood that those of a lower-income status, unable to compete in a more competitive market, will be forced to evacuate from their current residence. Sydney, Australia, for example, suffered a drastic increase to rent in the low-income properties situated next to the constructed Olympic Park (Lenskyj 2002). The commonness of such rapid urbanization, and the forced evacuation that has been shown to follow, has made the displacement of local communities a foreknown outcome or "unknown known" (Horne 2007) for former host cities. Nevertheless, there is little attention awarded to such research, which has illuminated the harmful legacies in the construction of mega-event imaginaries.

The heightened amount of displacement seen within host cities has also led to an invasion of new "civil liberties" policies which act to securitize the area and, in doing so, offer a sense of surveillance and safety for (certain) people. Within the literature, the effort of municipal parties in power to criminalize homelessness has been often cited as an inevitable outcome of event-led urbanization. Even activities such as sitting, sleeping and bathing, which are asserted as a basic human right, are banned from host cities in the wake of their mega-event. Under new anti-homelessness criminal policies, the homeless are increasingly at risk of harassment and unfair arrest. In Athens, Greece, local authorities established a law that would allow land to be seized from host communities for the Olympic-related construction (Lenskyj 2000). Further to this, there is an intensified investment made to surveillance technologies and personnel, while the urban architecture (even in space deemed public) is used to reinforce the law—for example, park benches are shortened to hinder excessive loitering, retail doorways are gated and public toilets are removed (Mitchell 1997). In Atlanta, 9000 homeless people, most of whom were of African-American descent, were arrested for activities such as sleeping in parks or on the street and entering a parking lot without owning a car parked there (NLCHP 1996). This be-

haviour became criminal in 1996, directly before the Summer Olympic event. The construction of each new lavish stadium, condominium and/or cultural acropolis is done with certain vision in mind—a vision that will dictate a certain urban/urbanite future—and while some remain oblivious to the manner in which architecture or the urban environment can further exclude, those amidst the excluded cannot avoid it.

Surely, these processes of gentrification occur in cities irrespective of their host status. It is clear that both the urban professional crammed into a 400-sq.ft. condominium and the family of seven in an apartment meant for four are both by-products of continual urbanization. But with the addition of each new luxurious condominium or hi-tech entertainment stadium, the environment under which lower income communities are forced to live remains in a state of visible entropy (Fanelli 2009). In order to overcome the difficulties associated with these processes of gentrification (or regeneration), middle- and lower-income families are forced to seek dwindling social assistance for aid (Murdie et al. 1996):

Concurrent growth in the low paying service sector has effectively transformed Toronto into a city of extremes with respect to wealth, lifestyle, and housing choices. Housing costs are amongst the highest in Canada, and the numbers of homeless had grown to over 25,000 in 1992, with 80,000 depending on food banks, and 200,000 living in “substandard” housing. (p. 29)

With a strict deadline, and the need to construct such massive facilities, it is difficult for cities to build urban imaginaries in a democratic manner, but the investment awarded to such an event will demand a more equitable distribution of event-related legacies. I do not claim the distribution of such a massive financial and human investment to be an effortless feat or that we can serve each citizen in the process, but I do believe, in the division of socioeconomic legacies, it is time host cities do better. Fantasies of an ecological tabula rasa treat the urban condition as erasable. Local communities, memories and histories are not erasable. In building for our future, we have to consider the mistakes of our past. Land in an unstructured state neither reproduce nor multiply the faults of capitalism—the logic under which we build. It is open to a “horizon of possibilities”, a place that apprehends multiplicities, and is anti-hierarchical much like the rhizome.

28.5 The (Pseudo) End: Preserving Spaces of Uncertainty

The financial investment offered to (re)vitalize the waterfront in Toronto from both public and private entities will pose a limit to the land, regardless of the opportunities promised. In the construction process, one vision will materialize. In writing this chapter, I marveled at land in an underdeveloped state, surprised with opportunities where I least thought them possible. At the same time, I became increasingly fascinated by the parallel drawn between the actual bioremediation demanded of the physical soil and that of the bodies welcomed (or prohibited) from it. As I did, I started to observe the manner in which the preservation of these spaces allowed cities to breed a sense of territorial achievement that does not benefit the market

but is illustrative of the potentiality of an inclusive politic through the unique appropriation of public space. Undeveloped, derelict land is an end in and of itself; a space where the urbanite can experience authentic urban wilderness—an urban escapism—without the artificial maintenance, fertilization and attempt at “natural” preservation. Left alone within the margin, a barren lot is pregnant with infinite possibilities; for those who take notice, it is a provocative platform to dream, a chance to experience some level of urban escapism. Situated next to the constructed and resourced, functional space, the emptiness of a barren lot will offer both a relief and a promise. At the closing of this chapter, I stand at a curious juncture; one that is unlike the start but unlike an end. In frustration, I tend to think that this is the nature of the work: To live in “horizons of (im)possibilities” and create a discussion that does not choke interpretability nor—like superfluous urban space—discipline particular subjectivities. It is now clearer than ever: those spaces, these (pseudo) endings, we need.

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Amanda De Lisio is a Toronto-based, doctoral student at the University of Toronto in the Department of Exercise Sciences. Her work is anchored by questions concerning human nature and social life under urbanization and how, specifically, these are reconfigured in the wake of a (sport) mega-event. Previous graduate work conducted at the University of British Columbia evaluated the impact of school-based health policies, legacies of the 2010 Winter Olympics in the province of British Columbia, on the student recipient. *This project used* the construction of the West Don Lands, the future home of the 2015 Pan/Parapan Athletes' Village in Toronto, Canada, as a case to examine how event-led urban renewal processes aid or hinder socially just and environmentally sustainable development for host communities.

Chapter 29

What Does Your Garden Show? Explorations of the Semiotics of the Garden

Susan Jagger

Garden has been described in many ways. Repton (as cited in van Erp-Houtepan 1986) identifies a garden as “a piece of ground fenced off from cattle, and appropriated to the use and pleasure of man: it is, or ought to be, cultivated” (p. 227). Etymologically, the fencing in of space demarcates a garden—garden stems from the Old English *geard* or *fence* (van Erp-Houtepan 1986). *Garden, yard, garten, jardin, giardino, hortus, paradise, paradiso, park, parc, parquet, court, hof, kurta, town, tun, and tuin*—all derive from the enclosure of outdoor space. Olonetzky (2007) traces the meaning of garden further to Old High German *garto* meaning *courtyard, house, or family*, itself from Indo-Germanic *ghorto*—*wattle, fence, or enclosure*—and aligns it with *paradise* and *park*, both also identified as bounded natural spaces for human use.

The definition of garden is focused by van Erp-Houtepan (1986) who includes in it the cultivation of fruits, vegetables, or flowers and also differentiates the single garden from plural *gardens* (i.e. parks and ornamental grounds). Brook (2010) recognizes a garden as a demarcated or bound outdoor space with living plants and extends that definition to acknowledge the inherent care and attention from humans beyond the initial planning and design of the garden.

Miller (1993) problematizes the narrowness of simply defining a garden as an enclosed space for growing fruits and vegetables and instead broadens the scope of the garden to include “any purposeful arrangement of natural objects with exposure to the sky or open air, in which the form is not fully accounted for by practical considerations such as convenience” (p. 15). This definition introduces three conditions. First, a true garden contains natural elements; according to Miller’s definition, those spaces composed exclusively of artificial components would not qualify as gardens. Next, a garden requires open sky or air exposure; this characteristic would eliminate a number of sites where plants are grown, namely greenhouses and orangeries. Finally, and perhaps most importantly, a true garden provides for more than physical necessities. A garden can also offer aesthetic, sensual, spiritual,

S. Jagger (✉)
Monmouth College, Monmouth, USA
e-mail: sjagger@monmouthcollege.edu

and emotional experiences. It is here that some identify a blurring of boundaries between nature and art where the garden is recognized as an aesthetic entity (Miller 1993). T. Turner (2005b) further extends the garden beyond biotic boundaries in his categorization of gardens supporting the body (e.g. medicinal and beer gardens), encouraging activity (e.g. botanical gardens and sports parks), and nurturing the human spirit (e.g. temple gardens and national parks).

According to Francis Bacon (1625), the garden “is the purest of human pleasures; it is the greatest refreshment to the spirits of man”. This opinion, however, is not universally held and has been notably disputed by Hegel. Acknowledging that gardens could provide “cheerful surroundings” (p. 699), Hegel (1975) also asserted that “the purpose of the garden is to provide, for diversion and the pleasure of strolling, a place which is no longer nature as such but nature transformed by humans to meet his need for an environment created by himself” (p. 699). To Hegel, the garden represented the mismatch of nature and art, and on its own is “worth nothing” (1975, p. 700).

While the garden has held multiple definitions, a shared thread running through is one of relation between humans and nature. Crawford (1983) identifies this relationship as one that is dialectical and that “the two terms of the relation designate conflicting forces... in which the conflicting interaction brings into being some third object” (p. 49). Here, we see humans and nature as forces interacting to create a new entity, the garden.

A garden has been said to be “a mirror of the society which creates it” (Bequette 1997, p. 44) but what does that mirror reflect? Who is present and who is absent? What is and is not represented? This chapter considers the symbolic nature of the garden and, through an exploration of four historical gardens, looks at how power and privilege have been represented. It also examines how these representations have evolved over time into the current trend of shared community gardens.

29.1 In Search of the Good Life: Sacred Groves in Ancient Greece

While its plains were rich, the mountains, valleys, and rocky islands of ancient Greece did not easily support garden culture. The landscape did however make for strong fortresses and most people lived within the safety of the city walls. Cities were crowded and their available courtyards were used as open-air workspaces for cooking, doing laundry, and keeping animals; the dense urban development simply left no space or water to support gardens. Instead, landowners tended to fields and gardens outside of the city. The land beyond the city walls was viewed as an escape from the city’s close quarters and a place where one could enjoy the openness of the countryside.

Homer referred to three types of designed outdoor spaces: courts, gardens, and groves. Courts, typically belonging to palaces, were essentially outdoor rooms and, beyond city walls, gardens provided fruits and supplied the demand for flowers,

such as roses, violets, myrtles, hyacinths, and lilies, used in rituals. Also outside city walls, though themselves bounded by walls or stone, were sacred groves. These groves were usually associated with a god or goddess and offerings to that deity were made at altars within the groves. Statues and their shelters became temples and the grove's springs and caves were valued for their water which, along with being in short supply, and perhaps because of this, was understood to be miraculous. Groves were sites for rest (*stoas*) and exercise (*gymnasiums*).

Not only were groves used for sport and leisure but they were also important places for philosophers and their students to learn about natural order and experience nature. It was here that philosophers were able to enjoy quiet reflection and contemplation, a feat more challenging within the public spaces of crowded cities and towns. Relationships between humans, gods, and nature, and reason, truth, and knowledge were actively debated within the boundaries of sacred groves. Aristotle attended one such grove, where he founded his school, the Lyceum, and would walk about its gardens while discussing philosophy with his followers. Plato and his own students were similarly *peripatetic*, strolling garden paths while engaging in philosophical discourse and debate.

A topic of regular discussion and contemplation by philosophers while walking in the garden was that of the *good life*. Here, it is important to consider what was classically meant by the good life as it differs considerably from modern notions of the term. Now, the good life typically includes financial wealth, ease of living, and enjoyment of the material elements that come with such a life—fine wines, relaxing holidays, spacious and well-appointed houses, and luxurious automobiles. However, in classical Greece, the good life was not centred on material wealth. Instead, the good life was identified as the human good, *eudaimonia*, happiness and well-being, the activity of the soul in accordance with virtues. To Aristotle, this included virtuous ways of acting, judging, and feeling. Living the good life involved the state of mind resulting from these virtuous actions and the *eudaimonic* life was inextricably linked to such exercises of virtue. Classical philosophers concerned themselves with reflecting on the good life and how to live it through their intellectual, spiritual, meditative, character-forming, and physical acts.

Cooper (2006) discusses how the classical garden was seen as a place where, through practices in the garden, virtues could be induced and the good life realized. Gardens and garden practices, such as designing and maintaining the garden, taking time to enjoy the aesthetic beauty of flowers and foliage, and taking leisurely activities in garden spaces, can give rise to virtues by allowing opportunities for their exercise (Cooper 2006). For example, when one sees how their nurturing of plants helps those plants to flourish, one might be inclined to care for and respect other forms of life. Other virtues encouraged by gardens and garden practices include self-mastery, humility, and hope and, asserted by Murdoch (1997), all of these fall beneath the umbrella of *unselfing*, detaching from one's own interests and ambitions to recognize those of others (Cooper 2006).

These elements of the good life informed the curricula at two academies set within sacred groves: Plato's Academy and the Epicurean Garden. Straying from Socrates and his philosophy of the *agora* which was firmly entrenched in the *polis*,

Fig. 29.1 The present day site of Plato's Academy, Athens. (From http://www.gardenvisit.com/garden/plato_academy_athens. Reprinted with permission)



Plato chose to locate his school in a sacred olive grove just outside of Athens' city walls, a grove that honoured the hero Academos. The Academy (see Fig. 29.1), as it came to be known, had a similar organization to Aristotle's Lyceum, with a private house for residences and dining and a separate area for lectures and instruction, and was also located on public grounds. Plato's Academy was essentially set within a walled park and this model became the norm for future Western schools. Also like modern Western academic institutions, the Academy was selective and its admission standards ensured that only those students deemed capable of understanding philosophy—a very small minority—were granted access to the school. The curriculum at the Academy focused on the whole person and time was given to teaching the body, mind, and soul. Students quite literally lived a shared devotion to the knowledge of the good in an environment of conversation and partnership. At the Academy, philosophy was a way of life.

Along the same road out of Athens as Plato's Academy, Epicurus established his school, the Garden, on his property beyond the city's walls. Epicurus himself was a citizen of Athens but was somewhat of an outsider. Philosophically, like Plato, he inhabited the outskirts; rather than focus on the *agora* and public activities, as Socrates did, Epicurus encouraged his followers to live unnoticed. Unlike Plato's Academy, the Garden was on private land and therefore was not supervised by the city, making it the first school to enjoy academic freedom.

While he did bring in students, lectures, and writings, as did other founders of schools of philosophy, Epicurus encouraged a greater sense of community and self-sufficiency among those attending the Garden. To Epicurus, friendship was of utmost importance. Students lived, studied, and wrote together within the garden walls. Vegetables and other plants were grown in the garden to feed the school community members. Epicurus and his colleagues were not referred to as masters, as in hierarchical schools, but were instead identified as guides or leaders¹. Epicurus also

¹ While students did not address Epicurus as master, they did have to pledge an oath of allegiance to him, promising to obey him.

focused on the sensual experience of nature, asserting that one should always accept and embrace nature and its offerings with joy and contentment. He argued that pleasure was the goal of human action and living a pleasurable life was inherent in living virtuously. Here, he defined these pleasures as those that are natural and necessary (e.g., eating bread and drinking water when hungry and thirsty). Pleasures that were natural and unnecessary (e.g., drinking wine when not thirsty) and unnatural and unnecessary (e.g., hoarding wealth) were to be avoided, again relating back to the Epicurean virtue of living unnoticed.

29.2 Medieval Monastic Gardens: Recreating Paradise through Geometry and Divinity

Following the fall of the Roman Empire, Europe went through a period of cultural upheaval: the continent was disrupted by wars, its cities were densely populated, and disease was widespread. Christianity became widely accepted as the promise of paradise after death enticed those living in such difficult conditions. Newly founded convents and monasteries helped to spread knowledge and renew elements of the classical era; medieval monasteries were noted as sites where “the arts of civilization were kept alive by the clergy” (Turner 2005b, p. 122). These arts maintained by monasteries included horticultural and gardening understandings and traditions. Pilgrimming monks would share their knowledge of plants, particularly medicinal and aromatic varieties, and interest in classical horticultural and agricultural texts and would also exchange bulbs, seedlings, and seeds. By the ninth century, much of the horticulture and gardening in Europe was limited to monasteries and those employed by the rich and powerful. However, the monasteries and their gardens were exclusive; members of the general public were not permitted on the grounds unless a public church, school, or infirmary was also housed within the monastery.

Beyond monasteries, medieval gardens were representative of paradise—*hortus conclusus*—places that restored the beauty of creation and allowed humans to commune with God. Within them, the five senses were indulged by scented herbs, brightly coloured flowers and foliage, and soft textures. Medieval gardens themselves were usually walled for a number of reasons; livestock and wildlife could be kept out of the garden as could the real and supernatural dangers of villages and towns. These embodiments of paradise were not open for all to enjoy.

Medieval monastic gardens were similarly rich with symbolism while also being functional and self-sufficient; the *Rule of St. Benedict* stated that “whenever possible the monastery should be so laid out that everything essential, that is to say water, mills, garden, and workshops for the plying of the various crafts is found within the monastery walls” (as cited in Turner 2005b, p. 123). Vegetables, fruits, and herbs were cultivated to feed and heal, and flowers were identified as religious artefacts. Manual labour was recognized as devotional work by the monks, particularly work done in the garden—“the Lord God took the man, and put him into the Garden of Eden to dress it and to keep it”.

Monastic gardens also served a contemplative purpose and this was particularly evident in the cloisters. Meaning enclosed, the cloisters were central to the monastic garden and served as a space for open-air meditation for the exclusive use of the monks. The cloister gardens often featured shrines and, noted by Eco, the green lawns of the garth had restorative qualities: “The green turf which is in the middle of the material cloister refreshes encloistered eyes and their desire to study returns” (as cited in Turner 2005b, p. 124). Physically, the space was geometric and closed on four sides and symbolically, with its segments and central fountain, was a recreation of the gardens of paradise that brought together mathematical order of the microcosm with the divinity of the macrocosm. The *ad quadratum* form of the garth mapped the four points of the compass and epitomized the universe. Surrounding the cloisters were arcades, covered spaces for reading, teaching, exercise, and work. Other characteristic features of the monastic garden included the cemetery orchards, green courts, herbers, vineyards, and infirmary, cellarers, obedientiary, and kitchen gardens. These spaces provided food and medicinal plants as well as grazing areas for livestock needed to support the monastic community.

An exemplar of the monastic garden was at St. Gall monastery at Reichenau, Switzerland. The monastery itself was constructed at the request of Charlemagne’s courts a few short years following his death; it seemed that Charlemagne’s devotion to the church was matched only by his love of gardens. The garden at St. Gall is renowned as its plan is acknowledged to be the oldest garden plan in Europe, dating back to 819 AD, and as such has been declared a UNESCO World Heritage Site. The garden plan included an orchard, vegetable, herb, cloister, and paradise gardens, and spaces for spiritual connection and renewal (see Fig. 29.2). The plan itself was presented in a Platonic form, not as a real place—“draw[n]...through the love of God out of fraternal affection, for you to study only” (Turner 2005b, p. 124)—and was organized mathematically.

The themes of paradise and fertility were cultivated not only in the identified paradise gardens but also throughout the gardens at St. Gall. The paradise gardens themselves, semicircular gardens at each end of the church, were used as places of meditation and were filled with roses, symbolic of the heavenly and divine. The orchard contained a variety of fruit trees as well as tombs; it doubled as the monks’ cemetery and also represented paradise. The vegetable and herb gardens grew a range of produce: onion, parsnip, cabbage, sage, rosemary, and mint, to name but a few.

Characteristic of all cloisters, St. Gall’s garden followed a quadripartite design and signified both the tips of the Holy Cross and the four rivers of Eden. Geometry dominated the space, measuring precisely 100 ft. square and whose features were placed symmetrically within its boundaries. Central to the cloister garden was a crossing of paths and a juniper tree. Interestingly, the juniper held multiple meanings, some seemingly contradictory. The tree was seen as a symbol of eternity, the *Tree of Life*, paradise, and protected against evil spirits. Its branches also had a liturgical purpose as they were used to sprinkle holy water and its timber was burned as incense. However, juniper was also known as the *maiden tree* or *virgin palm* and was used medicinally for abortions.

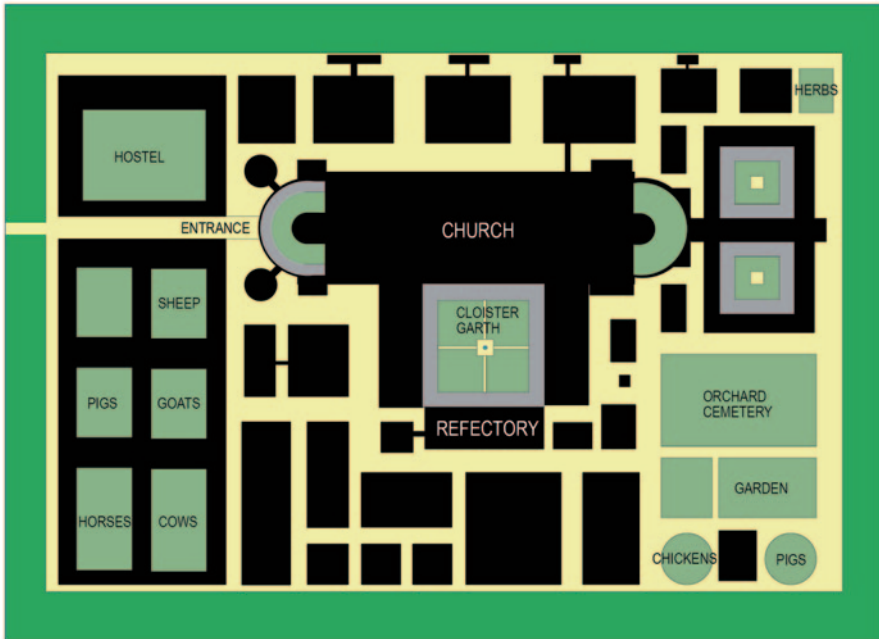


Fig. 29.2 Schematic plan of St. Gall. (From Turner 2005b, p. 132. Reprinted with permission)

29.3 Giardino all’Italiana: The Botanical Expression of Individual and Family Wealth

The Renaissance, extending for 300 years following the medieval period, was a time of opulence and extravagance. While medieval philosophy and culture was dominated by religion, Renaissance philosophy drew from classical understandings of reason as a criterion for truth. Humanism informed art and knowledge as the uniqueness of the human personality and worth of the individual was widely celebrated; humans were central to all things. Along with a focus on the individual, the Renaissance brought a renewed interest in the study of the classical civilizations of Greece and Rome. Mathematics was recognized as inherent within perception and representation; the linear perspective informed the art and architecture of the period and nature itself was thought to be guided by mathematical principles.

The garden design of the Renaissance reflected these views and the garden was a place where the rediscovered ancient world was celebrated and its values reinstated. In it, humans could revel in the beauty of nature’s creations, those features that were recognized to be solely for his pleasure and enjoyment. Whereas medieval gardens had been the product of monks’ and women’s labour and showcased medicinal and symbolic plants, gardens of the Renaissance blended architecture, landscape, and society and highlighted art, scholarship, and masculinity. In addition to cultivating the land, gardens were a means of cultivating the soul.

Rather than enclosed and inward facing as were monastic gardens, Renaissance gardens faced outward in elaborate and expansive designs at villas overlooking towns and the landscape. The beauty of the gardens was realized in their geometry that displayed the dominant objective, logical, and scientific understandings of the Renaissance; order, unity, and regularity were key. Rational design was seen as superior to “wild and disorderly nature” (Pizzoni 1997, p. 40). Typically, gardens mirrored the geometry of the house to which it belonged, and circles, squares, proportions, and geometric patterns were used to integrate buildings into the garden. Evergreens were the plants of choice as their dense form made them ideal for manicuring into hedges, borders, and sculptures. Symbolic trees were included in the design, typically ilex, pine, and oak. While some Renaissance gardens retained the sensory elements of earlier periods by featuring aromatic evergreens, flowers, and fruit trees, Jellicoe (1953) asserted that this was not always the case and that flowers were often viewed as being intrusive on the display of the relationship between humans and the universe. Quotations from classical texts were situated through the garden to encourage pauses at particular views and vistas. Architecturally, the Renaissance garden included the villa but also a number of elements that drew from classical art and culture: fountains, temples, loggias, pergolas, nymphaea, and compositions of sculptures. Again, these features asserted humans’ ability to control the natural world and his/her perceived dominant place within it.

The garden was an expression of the ideals of the Renaissance, celebrating both the power, wealth, and culture of the period and that of its reigning lord. Battisti summarized the sweeping value of the Renaissance garden when he declared it to be

a place of pleasure ... feasts, entertainment of friends ... social and intellectual freedom ... philosophical discussions and a restorative for both the body and the soul ... [with] the function of a sculpture gallery, ... a horticultural encyclopedia in vivo, a centre of botanic and medical research ... it is a perpetual source of moral instruction. (As cited in Strong 2000, p. 14)

These functions, as well as the ideals of the Renaissance, were realized in the gardens of the Medici, a family within which boundaries between state and family power were blurred. Prior to becoming a successful and wealthy Florentine banking family, the Medicis were simple peasants from outside of the city. With their financial successes came political influence within Florence and throughout Italy. Along with power in politics, the Medicis dominated Florentine culture for more than 400 years, with their influence stretching across scholarship, fine arts, architecture, and even garden making. It has been said that their interest in gardens reaches back to their peasant roots (Turner 2005b).

While the Medicis had many villas and gardens throughout Tuscany, the Villa Medici at Fiesole (see Fig. 29.3) exemplified Renaissance garden design. The villa was built high up in the hills above Fiesole, away from the diseases of the town, and open to fresh air (see Fig. 29.4). The gardens of the villa carried a sense of outward projection with terraces affording breathtaking views over Florence and the Arno Valley. Like the cloistered gardens of monasteries, the Medici gardens at Fiesole did have an enclosed space but rather than a place to celebrate God, it was a space to exalt the power and glory of the Medicis themselves.

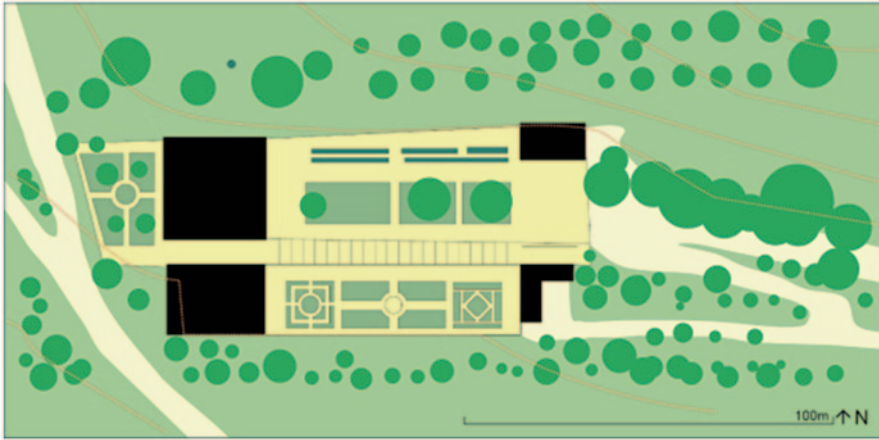


Fig. 29.3 Schematic plan of Villa Medici at Fiesole. (From Turner 2005b, p. 156. Reprinted with permission)

Not only were the gardens at Villa Medici a place where the treasures of nature could be enjoyed and the power of the family celebrated but like classical gardens of Ancient Greece, they also inspired and encouraged scholarly thinking and exchange. This was the case with the Medicis as scholars were regularly invited to the gardens to discuss and contemplate philosophy; Cosimo di Medici relocated his Platonic academy from the family's Villa di Careggi near Florence to the villa at Fiesole. Noted by Jellicoe (as cited in Turner 2005b), "such a villa, designed solely to provide luxurious mental refreshment, and placed in the most beautiful situation of any round Florence, could not fail to attract scholars for the interchange and acquisition of knowledge" (p. 156).

The gardens of the Medici reflected personal and family power and privilege but given the Medici's dual roles of wealthy Florentine bankers and Tuscan politicians, they also hint at the ability of gardens to express the power of the state. However, in no other place is the power of the state more transparently represented than in the gardens of Versailles.

29.4 Baroque Gardens: Displays of Drama, Excess, and Control

Following the Renaissance, Europe went through a period of conflict and struggle. Political boundaries were shifting from walled cities and city-states to regional powers. Wars of religion and separatist conflicts arose and the Thirty Years' War involved much of the continent. Plague and famine swept through Europe and populations declined. France took Italy's position as the political and cultural power of Europe and Paris became its capital of art and culture.



Fig. 29.4 Villa Medici at Fiesole. (From Turner 2005b, p. 141. Reprinted with permission)

The authority of the church was waning and the Enlightenment brought with it a sharpened focus on mathematics and science, particularly in relation to natural philosophy and fine arts. This further influenced religious structures as mathematicians and scientists, including Copernicus, Galileo, and Newton, and their ideas were reluctantly accepted by the church. Absolutism dictated thought and action and thus impacted all facets of society and culture. Art was no longer created in service to God but rather to the sovereign and in France, under the reign of Louis XIV, fine arts became a significant component of state policy. As in earlier eras, these cultural changes were reflected in garden design.

It has been suggested that the term Baroque derives from *barocco* meaning irregular pearl (Bazin as cited in Turner 2005b), but the garden design of the period could not have been further from that. Instead, geometry continued to dominate design and the term *Cartesian garden* is commonly used to identify gardens of the Ba-



Fig. 29.5 Schematic plan of Versailles. (From Turner 2005b, p. 182)

roque. A wide central axis was characteristic of gardens and acted to draw the eye, and then the visitor, into the space (see Fig. 29.5). Within town and city gardens, the axes would typically extend to focus on a church dome or other significant building; in rural areas, axes focused on elements of the landscape—mountains, lakes, forests. From the central axis, further avenues extended to highlight additional features within and beyond the garden. Baroque garden design furthered the Renaissance’s use of straight lines and right angles by adding circular, elliptical, and diagonal elements to frame and vary vistas and perspectives (see Fig. 29.5).

While the Baroque garden did highlight some natural features, much of the grandeur of the space was realized through extensive transformations of the landscape and additions of manmade architectural and structural pieces. Rivers and streams were diverted, ponds and lakes filled, and hills levelled. Gardens of this period typically included elaborate sculptures, terracing, paths and steps, bridges, buildings, and symmetrical *parterres* (beds edged with hedging and gravel paths). Dramatic water features were characteristic of Baroque gardens; massive fountains, canals, basins, and cascades were incorporated into design. Often, fountains were so numerous that they could only be run during special events. Baroque gardens brought together all of these elements in open, dynamic, expansive, excessive, and dramatic displays of grandeur and advertisements of wealth and power.

The gardens at Versailles were arguably the grandest of all Baroque gardens. Originally the site of his father's hunting lodge and a swamp, the land at Versailles was completely reshaped over a 30-year period between 1661 and 1700 to make way for an estate that would assert the power of Louis XIV's monarchy and showcase the sun, a symbol that he chose as self-representative. The rolling hills of the landscape were flattened and meandering rivers and streams were diverted in favour of planned thickets and vast, excavated basins for water features. Horizons were expansive and views extended to allow for the celebration of Apollo, the god of the sun, lord of time, and symbol of light and beauty.

Versailles' garden design reflected the dominant philosophical ideals of the time, namely the thinking of Descartes and his assertion of humans as "master and possessor of nature" (1637, as cited in Harrison 2008, p. 113) and served as the blueprint for future government centres, most notably Washington, DC. The gardens display in excess the militant humanism of the late seventeenth century. The garden lies along a single axis with avenues radiating out and extending to all corners of France (see Fig. 29.5). The area directly surrounding the palace is void of trees and the horizon line was lowered to extend the vanishing point and emphasize the expansiveness of the space. Within the gardens at Versailles are parterres, vast basins, an orangery, countless sculptures, and incredible fountains. Though water for the fountains was drawn from the Seine, pressure was too low to run all fountains simultaneously. Instead, only those within the King's field of view were run. At the garden's end is the *bassin d'Apollon*, the Fountain of Apollo, the most famous feature of the garden and the emblem of the Sun King himself. Unlike the gardens previously described, Louis XIV was keen to share his estate and actively encouraged the general public to celebrate his greatness. The king even penned *La manière de montrer les jardins*, a guided tour featuring the garden's highlights.

Harrison (2008) shares a brilliant reflection on his 2-day visit to Versailles and its gardens. While he is at first overwhelmed by the sheer beauty of the site, he quickly wears of the experience, instead longing for the simple organic presence of the natural world in less controlled and forced gardens. He poignantly notes that the gardens at Versailles are "as close as one can get to subjugating the natural world to pure form and bringing the potentially anarchic forces of life under such control as to extinguish them altogether" (p. 109). This is a tribute to the success of the estate designer, Andre Le Nôtre, for the gardens of Versailles clearly represent power—power of humans over the natural world (though Harrison notes that this relationship of power borders on humiliation) and the sweeping power of Louis XIV. The gardens show "an almost cowering sense of trepidation in the face of the power that imposed this form on them" (Harrison 2008, p. 110).

29.5 The Garden as a Representation of Power and Privilege

Through the four examples presented, representations of power and privilege are evident, both in the symbolic features found within the gardens and in the meanings presented by the gardens as a whole.

Noted by Harrison (2008) in his recollection of time spent at Versailles, gardens are an expression of power and control over the natural world; this is etymological across all gardens. How this enclosure of nature is realized is what varies from garden to garden. In the sacred groves of ancient Greece, the gardens were demarcated by stones or walls but still maintained a somewhat natural feel. Rigid structural framing of the garden becomes evident within monastic gardens and into the Renaissance. This period parallels the rise of rationalism and the increasing influence of Descartes and mathematical connections to natural philosophy. While Baroque gardens were expansive and open, they maintained clear and fixed boundaries. Features within the garden, particularly those of severely manicured plants, also enforced human's power over the natural world. Trees were groomed into geometric figures and the art of topiary became widespread through the Baroque period; Louis XIV reportedly even attended a costume party dressed as a topiary (Olonetzky 2007). The structuring of the garden represented an increasing control of the natural world and through garden design and maintenance, celebrates human's ability, and perhaps inclination, to assert power over the other-than-human world.

Through garden design, dominant paradigms and beliefs are privileged and this is evident in the organization of gardens throughout history. In ancient Greece, the sacred groves celebrated the gods and goddesses and featured statues and offerings in their honour. Also, through experiences in the gardens, living the good life—one of virtue and unselfing—was encouraged. As evidenced in the gardens at St. Gall, monastic gardens similarly promoted spiritual connections through garden design with paradise gardens meant to recreate the Garden of Eden and separate spaces set aside for contemplation. At St. Gall, geometry began to inform garden design, particularly in the precise measures of the cloisters and in the grid-like placements of individual gardens within the monastic grounds (see Fig. 29.2). Order and organization are amplified in the gardens at the Villa Medici in Fiesole (see Fig. 29.3) and especially in the gardens at Versailles (see Fig. 29.5). Here, mathematics underlies the design of both garden spaces and rather than celebrating religious figures, both gardens place humans on a pedestal well above the rest of the natural world. Within these gardens, nature is transformed to provide luxury and pleasure. The eudaimonic life is rejected in favour of a good life that centres on material wealth and excess. Along with the increasing impact of mathematics on culture, the gardens display the shift of power and influence from the collective (school and church) to the individual and family.

In addition to physically enclosing natural spaces, these historical gardens display the exclusivity of place and show that garden membership has its perks. First, gardens have been the sites of knowledge generation and storage and only those granted admission to the garden have access to the knowledge created and held there. The sacred groves were home to schools of philosophy and only those deemed worthy of admission (i.e. those capable of understanding philosophy) were given the opportunity to learn within its walls. While monks did save botanical knowledge from being lost following the collapse of the Roman Empire, that knowledge was not open to all and stayed safely within monastery walls. Access to the monastic gardens themselves was restricted primarily to monks. Like the sacred groves, Re-

naissance gardens were similarly used for philosophical discussions but, of course, this discourse was by invitation only.

Not only did exclusivity of place inform access to knowledge but it also spoke to access to the restorative qualities of time spent in gardens. These historical gardens were primarily in open, rural areas. Sacred groves and gardens did not lie within the city walls of Athens and therefore only those with the means to get to the sites could enjoy the spiritual, physical, social, and psychological benefits of being in the gardens. Only the monks were able to enjoy the restorative and refreshing effects of their monastic gardens. Likewise, the Medici and their invited guests were able to breathe in fresh air, far above and away from the city, and enjoy the pleasures of the gardens and vistas at their Fiesole villa. The gardens at Versailles, a distance from crowded Paris, were open to the public, allowing for the potential benefits of time spent in the garden to be shared. However, given that the lived realities of visitors to the estate were surely dramatically different from the life portrayed at Versailles—the most material version of the good life imaginable—it is questionable whether visits by the general public would be restorative at all.

These historical gardens are reflective of the societies that cultivated them. In their design and realization, displays of power and privilege are clear and the gardens unanimously show relationships of dominance, oppression, and inequality between humans and nature and between humans themselves.

29.6 Restoring Relations with/in the Garden

While it is clear within Western societies that humans have held, and even encouraged, a role of domination over nature, this is not the case within traditional ways of knowing and being. Within indigenous cultures from around the world, humans tend to live in relationships of respect with the other-than-human world and embrace a kincentric approach to nature. For example, the Raramuri people of northern Mexico recognize that, though different in form, all of Earth's beings are of the same substance and related. Similarly, the Nuu-Chah-Nulth of Vancouver Island, British Columbia, understand that “everything is one” and because of this, humans are entrusted with the care of the Earth and all of its members (Turner 2005a). These beliefs and the acknowledgment of our relations with the other-than-human world can be found within the current trend towards community and shared gardening.

Community gardening is nothing new; allotment and shared gardens have been commonplace throughout cities in the UK since the late nineteenth century. In the USA during World Wars I and II (WWI and II), community members created and maintained war gardens (victory gardens in WWII) in urban backyards, schoolyards, and parks, providing residents with food to supplement their rations. Urban gardening programmes also fed a similar need during the Great Depression as work-relief gardens were created in more than half of the country's states. These gardening programmes acted as temporary measures to address food shortages related to the economic crises and when these crises passed, the gardens were mainly

abandoned. In the 1970s, in response to factors including rising food prices and the declining conditions of the city, the urban community gardening movement gained momentum across North America. These gardens often revitalised vacant urban lots, transforming them into lush green spaces, and cared for by surrounding residents and community members. Community gardens are typically food gardens, providing the community with fresh fruits, vegetables, and herbs. Successful examples of community gardening projects can be found in most urban areas including New York City, San Francisco, Los Angeles, and Philadelphia.

Not only do community gardens have the potential to breathe life into empty urban lots and provide healthy, local food to residents but they can also transform the community itself through ecological, educational, social, and economic opportunities. Gardens can help to reintroduce nature into the city and participation in urban gardening experiences can allow urban dwellers to reconnect with plants, animals, and soil. Community gardens are sites of learning: practical skills, botanical and ecological knowledge, cooperation, commitment, and patience. As a diversity of groups are brought together through community gardening, the gardens themselves can be democratic spaces for helping oneself while helping others, both in attaining the basic need of food and also social, economic, and political support and strength.

An inspiring example of a grassroots urban community gardening programme is the P-Patch Program in Seattle, Washington. The programme started with a few dedicated and determined residents and now involves more than 3800 urban gardeners on over 23 acres of urban land. The P-Patch began in the early 1970s when Raine Picardo offered a portion of his farmland in the city's northeast to be used for a community garden. Boeing, a major Seattle employer, had recently laid off workers and in the city, social activism was gaining momentum. The City of Seattle soon bought the Picardo farmland, designated it as a community garden space, and started an expanding and collaborative programme that has seen the creation of community gardens in all areas of the city (see Fig. 29.6) over the decades since. Now, the city departments, not-for-profit groups, and residents work together to support community food security, particularly within low-income and immigrant communities; the P-Patch programme sends 7–10 tonnes of food to Seattle food banks annually (Gaylie 2011).

Speaking of Detroit's community gardens, Martusewicz (2006) highlights the impact that community gardening projects can have:

The gardens are centers of community activity that foster a different set of values that are especially important to the younger members of the community: cooperation, learning how to nurture natural processes, acquiring the knowledge and skills that can be used to achieve greater self-sufficiency, developing good eating habits that contrast with the diet of industrially prepared food. (p. 53)

In Seattle's P-Patch community garden programme, a shift of power is clear. Rather than gardens having sole owners and exclusive membership, the P-Patch gardens are open and democratic spaces. Community members work alongside people from the municipal government, not-for-profit groups, and local businesses to provide basic needs for the community: food security, economic support, and a strong and supportive social and cultural network. The collaborative nature of the programme has contributed



Fig. 29.6 Map of Seattle's Belltown P-Patch garden. (From http://www.seattle.gov/parks/_images/pro%20parks/BelltownP-PatchMap.jpg. Reprinted with permission from GAYNOR Inc)

significantly to its success and longevity and also speaks to the inherent and inextricable connections that we have to others and in turn to the other-than-human world.

Given the educational potential of community gardens, along with the current push to infuse environmental education across subject areas and grades (British Columbia Ministry of Education 2007; Ontario Ministry of Education 2007), there has been an increased interest in school gardening projects, particularly in urban settings. For example, in the Toronto District School Board, more than 200 schools have started school ground greening and gardening projects. While the potential for school gardening projects to emancipate those who are all too often disempowered—children—it is important to explore the relationships of power and privilege within this unique pedagogical context. Who is represented in the school garden and how are they represented? Who is not represented? What is reflected in the mirror that is the school garden?

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Susan Jagger is an assistant professor at Monmouth College. She works and plays at the intersection of place-based environmental education, participatory action research, and poststructuralism, and her dissertation meditates on the experience of the school garden.

Chapter 30

Semiotics of Food

Simona Stano

30.1 Introduction: Why a Semiotics of Food?

Eating and food are often compared to language and communication: In *Toward a Psychosociology of Contemporary Food Consumption*, Roland Barthes states that food

Is not only a collection of products that can be used for statistical or nutritional studies. It is also, and at the same time, a system of communication, a body of images, a protocol of usages, situations, and behavior (1961, ET 1997, p. 21).

Anthropologically speaking, food is undoubtedly the primary need. Nevertheless, as the French semiologist defends, this need is highly structured, and it involves substances, practices, habits, and techniques of preparation and consumption that are part of a system of differences in signification. Once satisfied, therefore, the first human need becomes a *sign* as it replaces, sums up, and signalises other behaviours.

In this sense, we can speak about a *semiotics of food*: Food is not only a substance for survival and nourishment but is also part of a sign system as it is strictly involved in processes of signification and interpretation.

30.2 Edible Versus Nonedible: From Cultural Materialism to Classificatory Thinking

The first aspect that identifies how strictly food is related to semiosis is the distinction between what is edible and what is not. According to Fischler (1980, 1990), one of the peculiarities of human beings' relation to food is the so-called classifica-

This chapter is based on what we discussed in Stano 2014a.

S. Stano (✉)
University of Turin, Turin, Italy
e-mail: simona.stano@gmail.com

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tory thinking (*pensée classificatrice*). Every culture selects, within a wide range of products with nutritional capacity, a more or less large quantity destined to become, for such culture, *food*. In Thailand, Cambodia, and many Asian countries, people consume *larvae*, locusts, and other insects. In Peru, it is common to eat hamster and llama meat. In Africa and Australia, some tribes consume snakes. By contrast, these same habits would probably sound odd, or at least unfamiliar, to European or North American inhabitants. As mentioned above, human beings eat, first of all, to survive. But in the social sphere, food assumes meanings that transcend its basic function and affect perceptions of edibility (cf. Danesi 2004, p. 194).

Some scholars have tried to connect the process of distinction between edible and nonedible to more or less functionalist and materialistic theories. The best-known approach is Marvin Harris' *cultural materialism*, according to which "human social life is a response to the practical problems of earthly existence" (2001/1979, p. XV). In *Good to Eat: Riddles of Food and Culture* (Harris 1985), the American anthropologist presents different examples to show that all food taboos and prescriptions can be justified in terms of *ecological advantage*. The alleged irrationality of cultures thus disappears up against the corroborated rationality of the processes of adaptation that are beyond the consciousness of individuals: The Jewish and Islamic prohibition to eat pork, as well as the Hindu choice of not ingesting beef, or the Western taboo concerning the consumption of insects are related to ecological and health reasons, although they are usually explained in religious or symbolic terms. Building on Robert Merton's theory of functionalism and the distinction between manifest and latent functions (1949), Harris aims at showing that, even if from the point of view of social actors' food habits, taboos, and prescriptions can be attributed to the symbolic dimension, the real base of human beings' distinction between edible and inedible refers to material, ecological, and nutritional factors. In other words, every cultural or symbolic trait should be considered as the other face of a beneficial adaptation, although people who benefit from it are not generally able to rationalize this process.

In contrast, according to Fischler and other prominent scholars, the transformation of natural nutrients into food cannot be reduced to simple utilitarian rationality (Harris 1985) or availability logics (Sahlins 1976). This process is a part of a *classification system* (Douglas 1972), and it should be rather referred to a different type of rationality, which is strictly related to symbolic representations. The biological need for nourishment is inserted in a system of values, and either according to a totemic (Lévi-Strauss 1962), a sacrificial (Détienne and Vernant 1979), a hygienic-rationalist (as in Western dietetics), or an aesthetic (as in gastronomy) logic, all cultures develop a system according to which all products with nutritional capacity are divided into two categories: edible and inedible.

30.3 Food Symbolism and the Structuralist Approach: Claude Lévi-Strauss, Mary Douglas, Roland Barthes, and Pierre Bourdieu

If Harris stresses the importance of material and rational reasons underlying food habits and prescriptions, other scholars have pointed out how strictly food is related to the symbolic dimension. Among them, the most influential works in recent decades are the structural analyses developed by anthropologists like Lévi-Strauss (1964, 1966, 1968, 1971) and Douglas (1966, 1972, 1975, 1984), the semiologist Barthes (1961), and the sociologist Bourdieu (1979).

30.3.1 From Nature to Culture: Lévi-Strauss and the Analysis of Food Symbolism

Despite covering a small part of Lévi-Strauss' total work, his writings on food have been very influential. His first venture in this domain is contained in *Anthropologie Structurale*¹ (1958), where, considering the contrasts between English and French cooking, he introduces the concept of “gusteme” in order to present the analogy between cuisine and language:

Like language, it seems to me, the cuisine of a society may be analysed into constituent elements, which in this case we might call ‘gustemes’, and which may be organised according to certain structures of opposition and correlation. (p. 85)

The anthropologist then distinguishes English cooking from French cooking through three oppositions: *endogenous/exogenous* (national *versus* exotic ingredients), *central/peripheral* (staple food *versus* accompaniments), and *marked/not marked* (savoury *versus* bland). Building on these categories, he concludes that in the English meal, the main dishes imply the use of local ingredients cooked in a relatively bland way, while the side dishes generally are more strongly flavoured and of exotic origin. On the other hand, in French cooking, strong flavours are characteristic of both central dishes and accompaniments, so the opposition exotic *versus* endogenous is not accentuated.

In the first volume of his *Mythologiques, Le Cru et le Cuit*² (1964), Lévi-Strauss defines cookery as a “technical activity” ensuring a transition between nature and culture, thus referring to the fact that man is at the same time both a biological being and a social individual, and by cooking the “raw”, he transforms it in a cultural product with strong symbolic meanings. This analysis is reinforced in the second volume, *Du Miel aux Cendres*³ (1966), where the French anthropologist compares different myths to introduce the antithesis between honey and tobacco (which have

¹ English translation *Structural Anthropology*, 1963.

² English translation *The Raw and the Cooked*, 1969.

³ English translation *From Honey to Ashes*, 1973.

great significance for the tribes he studies) as the manifestation of fundamental oppositions of thinking, thus linking oral folklore and social customs and values. The third volume, *L'Origine des manières de table*⁴ (1968), and the fourth, *L'Homme Nu*⁵ (1971), focus on the differences between the previously analysed South American myths and the newly introduced North American ones, presenting a discussion on morals, numeration, and the origin of the novel, and stressing how, despite changing its content, a myth can retain its structural principles.

Beyond the peculiarities of each tome, the main point concerning food symbolism is the idea of a correlation between certain conceptual pairs related to food, such as “raw” versus “cooked”, and the corresponding oppositions on the semantic level, such as “nature” versus “culture”. This leads Lévi-Strauss to formulate the so-called culinary triangle (1964, 1965), where cooking is represented as a system located within a triangular semantic field, whose three vertexes correspond to the categories of the *raw*, the *cooked*, and the *rotten*. With regard to cooking processes, the raw represents the unmarked pole, while the other two vertexes are strongly marked, although oppositely: The cooked is a cultural transformation of the raw, though the rotten is its natural modification. The triangle reveals, therefore, a double opposition: “Elaborate” versus “unelaborate”, on the one hand, and “culture” versus “nature”, on the other hand.

Building on this scheme, Lévi-Strauss distinguishes various modes of cooking: *Roasted* food is directly exposed to the fire, with which it realizes an unmediated conjunction, while *boiled* food is doubly mediated (by the water in which it is immersed, and by the container that holds both water and food). The roasted could be, therefore, located on the side of nature, whereas the boiled on the side of culture, as it implies the use of a cultural object, which is the receptacle (*literal level*), and requires the mediation of water between food and fire (*symbolic level*). The other opposition recalled by these two modes of cooking is the one between elaborate and unelaborate: The roasted would correspond to the raw (unelaborate), as it is never uniformly cooked, while the boiled to the rotten, as the linguistic examples cited by Lévi-Strauss proves. The French scholar then identifies the third lacking term, corresponding to the cooked (the elaborate), with the *smoked*, which recalls the roasted as it implies an unmediated process, but at the same time differs from it as it is, like the boiled, a uniform and penetrating in-depth form of cooking. Concerning the similarities and differences between smoking and roasting, then, Lévi-Strauss points out that, even if in both cases nothing is interposed between food and fire except the air, in the first one the air is brought to a maximum, while in the second one it is reduced to a minimum. According to this observation, he identifies two differentials that can be expressed by the oppositions *close/distant* and *rapid/slow*, enhanced by a third differential, created by the presence (the wooden frame used for smoking) or absence (roasting) of a cultural object. In this way, the smoked is related to the boiled, even if, on the other hand, boiling is opposed to both smoking and roasting with regard to the presence or absence of water.

⁴ English translation *The Origin of Table Manners*, 1978.

⁵ English translation *The Naked Man*, 1981.

Finally, the French scholar analyses the various contradictions intrinsic to the triangle and the relationships among its vertexes, then coming to open the discussion to other cooking techniques, such as the *grilled*, the *steamed*, and the *fried* (for which a tetrahedron should rather replace the previously used triangle). He also mentions the possible differentiation between animal and vegetable foodstuffs cooking methods, finally stressing the importance of diachronic factors such as the order, the presentation, and the gestures of the meal, as well as of the sociological, economic, aesthetic, and religious oppositions that should be taken into account for a proper analysis of a culinary system: male/female, family/society, village/bush, sacred/profane, etc. By taking into consideration all these variables, as Lévi-Strauss concludes, “we can hope to discover for each specific case how the cooking of a society is a language in which it unconsciously translates its structure” (Lévi-Strauss 1965; ET 1997, p. 35), representing on the level of expression certain systems of values, social relations, religious beliefs, and ideological convictions.

30.3.2 *Mary Douglas: Meals, Drinks, and Religious Taboos*

Despite sharing Lévi-Strauss’ conviction that food categories encode social events, Douglas (1972) reproaches the French scholar to erroneously expect to find universal food meanings common to all mankind through the analysis of very restricted societies, as well as to rely entirely on the resources of binary analysis, affording no procedures to validate the meanings that his technical apparatus produces. She stresses the importance of considering the binary pairs according to their position in a series, that is, in their syntagmatic relations. Building on the analogy between eating and talking, which are both patterned activities, she tries, therefore, to analyse the framework of categories for the description of eating, considering the foods and the dishes that compose the several meals throughout the day, the week, and the year.

After describing the characteristics of such a grammar, the British anthropologist points out the relevant food categories in her social environment,⁶ individuating two major contrasted groups: *meals* and *drinks*. Meals are structured—according to the grammar described in *Deciphering a Meal* (1972)—and named in their sequence (early, main, light), and they presuppose the use of at least one mouth-entering utensil per head, as well as a table, a particular seating order, and cultural restrictions both on movement and on alternative activities (such as reading the newspaper). A meal also incorporates a series of contrasts: hot and cold, bland and spiced, liquid and semiliquid, and various textures. Finally, meals are likely to be organized in scale of importance and sumptuousness through the week and the year, according to a structure that recalls a sort of metonym: “the smallest, meanest meal figures the structure of the grandest, and each unit of the grand meal figures again the

⁶ “Certain segment of the middle class in London”, as the British anthropologist clarifies (1972, p. 69).

whole meal—or the meanest meal” (Douglas 1972, p. 67). The opposition between meals and drinks also reflects differences in social relationships: Drinks are generally available to strangers, acquaintances, and family. On the other hand, meals are reserved for family, close friends, and honoured guests.

First in *Purity and Danger* (1966) and then in *Deciphering a Meal* (1972), Mary Douglas also focuses on the Mosaic rejection of certain animal kinds, trying to suggest a rational pattern for the considered taboos. Considering the three sets of abominable beasts established by the Mosaic code (Leviticus 11; Deuteronomy 14), she aims at interpreting the same meaning of abomination within it. Initially, she recalls the division among the three spheres of land, air, and water, as well as the criteria on the base of which animals pertaining to such domains, or hanging in the balance, are not to be touched or eaten, or fit for the table, but not for the altar. She comes then to draw some diagrams, finally comparing them with the ones representing the rules regulating Israelites’ access to the temple. Her conclusion is that there is a very clear analogy between humans and animals on the one hand, and between the classification of animals according to holiness and the relationship between the temple’s holiness and the body’s purity on the other. This analogy also recalls what previously pointed out with relation to home meals:

Lay these rules and their patternings in a straight perspective, each one looking forward and backward to all the others, and we get the same repetition of metonyms that we found to be the key to the full meaning of the categories of food in the home. (Douglas 1972, p. 76)

Douglas then considers the Mosaic rule according to which, meat must be drained of its blood before consumption (Leviticus 17:10; Deuteronomy 12: 23–7), recalling again the idea of purity and the general analogy between body and temple:

The draining of blood from meat is a ritual act which figures the bloody sacrifice at the altar. Meat is thus transformed from a living creature into a food item. (p. 78)

Finally, the anthropologist analyses, the third Hebrew dietary law—that is the total separation of meat from milk and the consequent minute specialization of utensils (Exodus 23: 19; 34: 26; Deuteronomy 14). This argument permits her to respond to Tambiah and Bulmer’s criticisms to her first analysis outlined in *Purity and Danger* (1966), comparing the special taxonomic status she individuated for the pig to the Israelites to that of the otter in Thailand, and so coming to point out that “the common meal, decoded, [...] summarizes a stern, tragic religion” (Douglas 1972, p. 79).

Much more could be said about Douglas’ contribution to food studies, also considering other interesting works such as *Food in the Social Order* (1984), but in this short review, it is sufficient to consider how, through her different analyses, she has been able to point out the strong relationship interrelating food and social codes.

30.3.3 Roland Barthes and the “Grammar” of Food

Having stated that food is a system of communication, a body of images, a protocol of usages, situations, and behaviours, Barthes (1961) tries to individuate its con-

stituent units. He suggests to begin by gathering all the possible information about food in a given society (products, techniques, habits), and then examining these facts according to what linguistics call transformational analysis, that is, observing “whether the passage from one fact to another produces a difference in signification” (p. 168).

He considers some examples related to the contemporary French context, such as the passage from ordinary bread (signifying day-to-day life) to milk loaf (recalling the party) and the changeover from white bread to brown bread (with the latter paradoxically becoming a sign of refinement), and the American one, considering oppositions such as bitter versus sweet flavours (which is associated with a contrast between upper and lower classes) and sweet versus crisp foods. According to the French semiologist, the individuation and comparison of such oppositions, therefore, would make it possible to compare the food grammars of different countries, as “food is an organic system, organically integrated into its specific type of civilization” (Barthes 1961, p. 25).

30.3.4 Pierre Bourdieu: Food and Social Stratification

In *La Distinction*⁷ (1979), Bourdieu focuses on different aspects of behaviour—such as music, clothing, cosmetic preferences, furniture, visual arts, and food—that are often attributed to individual taste, but at the same time recognised as being related to social stratification. Considering the different classes and subclasses of society, the French sociologist aims at finding the principles underlying the cultural preferences of each group:

It is necessary to establish for each class and sub-class [...] the generative formula of the habitus which retranslates into a particular style of life the characteristic necessities and facilities of that (relatively) homogenous class of conditions of existence” principles beneath the cultural preferences of each group. (ET 1984, p. 230)

Building on extensive social survey data, Bourdieu concludes that food, like clothes, furniture, and other aspects of the behaviour are part of social life, and, as such, they are subject to “precocious apprenticeship”, as they are not remoulded through education but remain closely conditioned by the class or subclass of origin.

30.4 The Limits of Structuralism and the Developmental Approach: Goody, Mennell, and Mintz

The great virtue of structuralism is that “it clearly recognises that taste is culturally shaped and socially controlled” (Mennell 1985, p. 6). By contrast, the structuralist approach has been strongly criticised for being rigid and unable to catch social

⁷ English Translation *Distinction: A Social Critique of the Judgment of Taste*, 1984.

changes. Elias (1939a, b, 1969) connects this inability to what he calls “process reduction”, that is, the tendency in Western thought to look for static and constant *formulae*, codes, or deep structures underlying the flux and change of the social sphere. According to Mennell et al. (1992), another weakness of structuralism is that, while avoiding any suspicion of ethnocentrism,

It moves so far to the pole of extreme cultural relativism that it overlooks any possibility of explaining different habits—particularly their origins—in terms of purpose, function or utility. (p. 8)

These criticisms have led some scholars to adopt a different approach, consistent with Marvin Harris’ cultural materialism: the so-called developmentalism. Despite sharing a dissatisfaction with the structuralist perspective, the developmentalists—whose main representatives are Goody, Mennell, and Mintz—do not at all negate the power of the symbolic meanings of food in shaping and regulating social behaviour (cf. Mennell et al. 1992, p. 14), thus partly distancing from Harris’ view. On the other hand, criticizing structuralism’s static nature, the developmental approach suggests that tastes and behaviours change over time as a result of the developments that occurred in the previous generations. According to the developmentalists, social change is the mechanism that determines cultural preferences, so it is essential to understand why and how meanings attached to food have come to be as they are.

Jack Goody, in *Cooking, Cuisine, and Class* (1982), focuses on the reasons why a “high” (elite) or “low” (peasant) cuisine emerges in some societies instead of others. Arguing that it cannot be merely a matter of degrees of social and political complexity, he compares two North Ghanian tribes—the Lo Daga and the Gonja—and notes that, despite many differences of social structure in general, and in foodstuffs in particular, the shape of the cuisine in both societies is surprisingly similar. Then Goody turns to those societies for which differentiation of cuisine is a hallmark (India, Ancient Egypt, China, Western Europe, and Africa), also considering the role of literacy in the differentiation of the high and the low in both social structures and cuisines.

On the other hand, Mennell (1985) concentrates on the differentiation between a (primarily female dominated) domestic cuisine and a (primarily male dominated) professional *haute cuisine*, comparing France and England in their social development. Another argument he supports is that taste in eating, such as appetite itself (Mennell 1986, 1987), is formed according to what Elias (1939a, b, 1969) more generally noted for the shaping of personality make-up:

The transition from the medieval oscillation between feasting and fasting, plenty and want, to ne emphasis on discrimination at table parallels—indeed in an aspect of—the broader shift in the balance between external constraints and self-constraints. In early modern Europe, food supplies improved; but, more than that, the extension of trade, the progressive division of labour and the process of state formation and internal pacification improved the *security* of food supplies. (Mennell et al. 1992, p. 17)

Finally, Mintz’s *Sweetness and Power* (1985), which is a study of the supply of and demand for sugar, comes to the same conclusions of Goody and Mennell, although making reference to a different theoretical framework—the world-system theory.

Analysing the development of European sugarcane plantations in the West Indies and elsewhere from the early sixteenth century and the creation of the modern European and North American sugar mass market, he points out how this product abandoned its connotation as a luxury and rarity to become the first mass-produced exotic necessity of a proletarian class. He also highlights that the huge increase of its use can only be explained considering the interaction through the time of economic interests, political power, nutritional requirements, and cultural meanings.

30.4.1 Food as a Language: From Culinary Grammar to Translation Processes

Beyond structuralism's weaknesses and the choice of focussing more on social changes or symbolic values, it is undeniable that food and cooking represent a language to the extent they express social and cultural configurations, and possess a particular grammar.

As mentioned above, there have been different attempts to decode this grammar, as well as to understand the meaning underlying food habits and avoidances (structuralists) or their changes over time (developmentalists). Another interesting research examining food as language is Jakobson's *Szczupak po polsku* (1965, pp. 782–791), where the author analyses the difference between the Polish and Bohemian medieval recipes for pike, recalling the architectural and poetical frame of that period. Also, Algirdas Julien Greimas, in *La Soupe au pistou: ou la Construction d'un objet de valeur* (1983b), explores the grammatical structures underlying recipes and plates, focussing on the Provençal soup.

Apart from the cited attempts of decoding food grammar and behaviours, it is interesting to note that, as language, "cooking contains and expresses the culture of those who practice it; it is the depository of the group tradition and identity" (Montanari 2006, p. VII, translation mine). As such, Massimo Montanari states, "it is not only an instrument of cultural identity, but perhaps the first way to come into contact with different cultures. [...] More than language, food is a mediator among different cultures, opening the cooking systems to all sorts of inventions, intersections and contaminations" (Montanari 2006.).

But if food is a language that reflects the structure of a society as well as a form of encounter between different cultures, how does the "translation" process between a sociocultural system and another take place?

As Montanari (1997, pp. 121–122) states that cooking is not a random assemblage of elements, but a unified and coherent system, there is a substantial difficulty in accepting, and sometimes even understanding the other. Hence, there is the need to "filter" what is unknown through one's own system of values, thus frequently distorting it, or at least adjusting it, reducing it to one's own criteria. The Italian scholar supports this argument with the example of the fifteenth- and sixteenth-century European explorers and conquerors' attitude toward the gastronomic universe of the New World:

[They] find it hard [...] to focus, to theoretically “classify” the new experiences. Their descriptions always aim at “translating” such experiences into their own language, to bring them back as part of their culture. Consider, for example [...] the anonymous *Relación de algunas cosas de la Nueva España*, possibly written by a Cortés’ companion and first published in 1556. *Maize* is presented as “a grain like a chickpea” that sows cobs “like panic-grass”. *Tortillas* are described as a kind of bread—and so referred to the Mediterranean culinary tradition. *Chili* is referred to as “a kind of pepper”. The turkey is presented as a “big chicken like a peacock”. The reference to European culture is constant and [...] inevitable. But it is not just that. It is not just a terminological and theoretical problem, as, even from the practical point of view, the acceptance of these new realities in the European context remained for a long time absolutely marginal. (Montanari 1997, p. 122, translation mine)

Poulain (2002) offers another interesting example of the processes underlying the inclusion and acceptance of new foods referring to the discovery of the Americas and, especially, to the introduction of the *potato* in the European context. Easily accepted in regions characterised by a soil unfitting the cultivation of wheat or rye (Poulain 1984), the American tuber was mostly refused or submitted to treatments aiming at integrating it into the process of bread making in France, where bread constituted the most valorised food of the seventeenth century, on both the material side (as it was the principal ingredient of soups and other dishes, prevailing on meats and cold cuts) and the symbolic dimension (with particular reference to Christianity).

Like other systems of the *semiosphere* (cf. Lotman 1984), therefore, food is in constant transformation and redefinition, through *translation* processes that mediate between boosts and resistances to change. Such processes are gradual and, as Montanari and Poulain remark, sometimes very slow. Nevertheless, they have suffered a sharp acceleration over time. In an increasingly globalized world, characterised by a number of migratory flows, the encounters—or sometimes, rather, conflicts—among different food cultures are becoming increasingly evident and consistent, affecting (much faster than in the past) the existing culinary “traditions” and becoming part of them.

On the one hand, contemporary food trends have been returning to organic principles such as “biological production” and “natural periodicity” (cf. Montanari 1997, pp. 226–30; Montanari and Sabban 2004), encouraging people to prefer local organic products instead of foods imported or grown using “unnatural” techniques. On the other hand, the *exotic* and the *ethnic* have become a fundamental presence in Western food cultures. From the several *döner kebabs* that fill up the streets where we walk to the many *sushi* bars and the more and more present Eritrean, Senegalese, or Asiatic restaurants, the offer of ethnic food is extremely wide and varied. There are also several ethnic shops (such as *halal* butchers, Chinese bakeries, or Mexican stores), which are increasing, and many city markets⁸ where the local products are increasingly complemented with spices, vegetables, and other foods required for the preparation of exotic dishes. This same phenomenon, moreover, is progressively becoming popular even in the large retail: In North America and Europe,

⁸ For the analysis of a very known ethnic market, *Porta Palazzo* in Turin (Italy), cf. Black 2007; Stano 2011.

for example, recent decades have seen the growth of foreign foods on supermarket shelves, sometimes in sections specifically devoted to ethnic food (e.g. soy noodles, Mexican tortillas, chilli sauce, spring rolls, or sushi), and sometimes even next to local and more common products (e.g. basmati rice, coconut milk, or exotic fruits).

Therefore, it is very interesting to reflect on the dynamics of encounter and interpenetration that take place within such a variety of food “languages”. That is, following the analogy with language, to analyse the processes of *interlingual translation* related to the culinary code, and the effects arising from them on the level of signification.

In particular, Fischler (1990) introduces the idea of the *omnivore’s paradox*: on the one hand, human beings suffer from a biological need for food variety, that is, an *omnivorousness* that implies autonomy, freedom, and adaptability, driving us to adapt to environmental changes and exploring a multitude of new foods and diets (*neophilia*). On the other hand, humans generally fear the risks associated with new foods and new food sources (*neophobia*), thus opting for prudence and resistance to change.

Beyond the paradoxical opposition between these two poles, Fischler stresses the importance of the so-called principle of incorporation, which has different connotations. On the *psychological* side, “one becomes what one eats”. From the objective perspective, “the food we absorb provides not only the energy our body consumes but the very substance of the body, inasmuch as it helps to maintain the biochemical composition of the organism” (p. 279). At the same time, from a *subjective* point of view, people believe or fear, according to particular processes of the magical thinking, that food acts either on the state of the organism or on their essence and identity by “analogical contamination, integration, or impregnation” (Fischler 1990), recalling the well-known Brillat-Savarin’s aphorism “Tell me what you eat, and I will tell you what you are” (1825). Moreover, on the *psychosociological* side, incorporation represents the basis of collective identity and, at the same time, of otherness: By the same act of eating, we incorporate ourselves, thus feeling integrated into a socio-cultural dimension.

Thus, not only does the eater incorporate the properties of food, but, symmetrically, it can be said that the absorption of a food incorporates the eater into a culinary system and therefore into the group which practices it, unless it irremediably excludes him. But this is not all: any culinary system is attached to, or part of, a world view, a cosmology (Douglas 1966). Man eats, so to speak, within a culture, and this culture orders the world in a way that is specific to itself. (Fischler 1988, pp. 280–281)

Food, cooking, and table manners, being culturally determined, insert human beings in a particular social and cultural background, inciting processes of identification and distinction.

It is also very interesting to compare Fischler’s approach with the works by Rozin (1976), Beardsworth (1990, 1995), and, above all, Bachelard (1948), who, building on psychoanalysis, distinguishes between two structures of the oral unconscious: *swallowing* and *mastication*. As Jean-Pierre Poulain recapitulates in his book *Sociologies de l’alimentation* (2002), the act of swallowing recalls that of *sucking*, that is, the primitive stage of the oral phase, when the infant sucks the breast milk, so

feeling related to other people, who represent his or her source of food, by the same act of swallowing (cf. Housser 1976). Swallowing does not imply the disintegration of food, but rather its valorisation and consecration (Durand 1960), thus not altering its symbolic identity. On the other hand, with mastication, the desire for incorporation becomes sadistic, as the object incorporated is mutilated, damaged, and fragmented, and the symbolic meanings are decomposed and recomposed. After examining the symbolic implications of this classification, Poulain (2002, pp. 160–163) comes to define four phases for the social incorporation of food. In the *positive contamination*, the incorporated object prevails on consumers, as the positive qualities of food “invade” and contaminate them. This attitude corresponds to the *imaginarium* of endocannibalism, which involves members of a community consuming the flesh of another member of the same group, usually in veneration of the dead, and to the Eucharist, where the host should not be masticated as it represents the body of Christ. In the *negative contamination*, eaters focus more on the risks and dangers associated with food, as its characteristics could potentially damage human integrity or identity. This incompatibility between consumer and consumed object results in taboos, fasting, and avoidances. On the contrary, the *positive appropriation* implies an active eater, who eats food in order to take possession of its qualities, as in esocannibalism, where victims are consumed to acquire their strength. Finally, in the *negative appropriation* the eater ingests negatively valorised foods in order to sublimate their negativity, as in certain mystic practices (cf. Albert 1997) or in the so-called judicial cannibalism, where the execution of convicts and the consumption of their body represent a way to restore order.

Another interesting classification is Jean-Pierre Corbeau’s typology (1991) based on Raymond Ledrut’s categorisation of food consumers (1979). According to the latter, eaters “obsessed by overconsumption” (*complexés du trop*) distinguish themselves by their anxiety in ingesting food, as they consider eating as an activity strictly related to risks such as food diseases (e.g. bulimia or anorexia), social appearance (where thinness plays a key role), health issues (which stress the importance of choosing beneficial foods), or religious beliefs and ideologies (generally associated with particular practices and avoidances). The main characteristic of the “supporters of light nourishment” (*fervents du nourissant léger*) is that they focus mainly on maintaining a balance between eating for pleasure and eating healthy. They also have special penchant for exotic food, both synchronically (for other cuisines) and diachronically (with respect to traditional local dishes and products). Finally, the “promoters of substantial nourishment” (*adeptes du nourissant consistant*) love cold cuts, meats, and coarse-grained products, favouring the energetic dimension. Corbeau further enhances this classification introducing the category of the “gastrolastress”, whose name comes from the crisis of the words *gastrolâtre*, used by Rabelais to refer to consumers who deify their stomach, and the idea of *stress*, which recalls to modern life constraints and rhythms.

Despite representing ideal typologies that should not be confused with reality, these distinctions constitute very interesting attempts to define schemes for analysing people approach to food, as well as to elaborate further on enhanced patterns for observing contemporary food cultures and the translation processes related to them.

If globalisation breaks down some cultural differences, it also activates a process of diversification and integration that redefines the uses and meanings of products and techniques. Therefore, as mentioned above, it becomes essential to reflect on these crossbreeding processes, as well as to try to decipher the implications of such “translations”. With this respect, it is important to recall the anthropological research developed by scholars like Bradby (1997), Harbottle (2004), and Caplan et al. (1998), or food sociologists such as Cohen (1993, 2000) or Tibère (1997, 2000), who generally use the concept of *ethnicity* to analyse the effects of food globalisation and the experience of the exotic. These analyses are really interesting, especially when they aim at understanding how different communities create a common culinary space, balancing new foods and techniques with local practice, ingredients, and dishes. By contrast, they generally refer to very confined and small societies, thus not reflecting the more global hybridisation processes affecting contemporary food societies and cultures.

As Parasecoli (2011) reminds us, in the interaction among different culinary spheres, “food-related experiences reveal the cultural character of gastronomic competences, forcing individuals to engage with otherness through embodied communication” (p. 645). Focussing on signification and communication processes, semiotics can therefore offer effective analytical tools to analyse food hybridisations and intersections:

Ingredients, dishes, and practices can be interpreted as carrying meaning and used to infer information about their makers, their cultures, and their environments. At the same time, they can be produced to carry meaning, becoming effective tools of intentional communication. While semiotics can help us achieve a better understanding of behaviors related to culinary encounters, at the same time the examination of these phenomena can shed new light on food as a network of interrelated embodied processes of semiosis. (Parasecoli 2011, p. 647)

Recalling Eco’s concept of *encyclopaedia* (1975, 1979, 1984) and Lotman’s *semiosphere* (1984, 1990), Parasecoli analyses the encounter with new foods from the point of view of both travellers and migrants, stressing the importance of considering not only the flavour, the visual aspect, or the temperature of foods but also and above all their interactions with other discourses, practices, and cultural texts (2011, pp. 648–55).

Rather than focussing on small-scale and very confined societies, therefore, it is essential to broaden the discourse on food hybridisations and intersections to the contemporary world, which is strongly characterised by a number of migratory flows, displacements, and travels, as well as by increasing and fast-changing interactions between foods and other intercultural texts. This means to focus not only on *food material* (the ingredients used, their importation from the “original” context or substitution with variously declined “substitutes”, the inclusion of new species in agriculture or livestock, and the insertion of previously unknown or not so common products in the usual production and distribution chains), but also and rather on *texts* (the recipes, not only analysing the similarities but also the differences between them and the “original” versions they make reference to, never losing sight neither of the reference to the culinary tradition the recipes refer to nor of the con-

text in which they are transposed), *discourses* (arts, mass media, literature, and other domains underlying the collective *imaginarium*), and *practices* of preparation but especially consumption of different dishes (making their symbolism explicit and focussing especially on some aspects such as the spatial dimension, temporality,⁹ the use of certain tools, etc.).

In such a perspective, it becomes essential to adopt a semiotic approach able to concentrate particularly on the constraints and the effects of the translation processes involving food and eating, with an analysis based on the deep observation of the *contextual differences*, that is, the “aesthetic and social *norms* and the ideologies that may separate the [...] texts in translation” (Vulli 2000, p. 185, translation mine).

30.5 Food and Communication

In addition to the analysis of food as a language and a system of communication, it is very interesting to consider the languages and forms of communication related to food universe: From cinema to various forms of arts, from wine and food tasting to cooking blogs, from photography to fashion or design, food is at the centre of numerous discourses that communicate and analyse it, at the same time investing it with multiple values, and inserting it in multiform narrative programmes. What are the traces left by such discourses? And how do these traces affect our perception of reality? Finally, what are mass media capabilities with respect to the representation of food and taste, and especially of their cultural dimension?

Many scholars have tried to answer these and other questions, analysing different texts, from media discourses to literary or artistic works.

In particular, Floch (1995a, b) examines the logo and the semantic universe underlying the cuisine of the well-known *chef* Michel Bras, whereas Fontanille (2006) stresses the importance of the visual organisation of his dishes, sometimes to be intended as instructions for consuming the different courses, sometimes rather as a sort of ironic revisitations of them.

Ave Appiano’s *Bello da mangiare* (2000) concentrates rather on the visual representation of food in arts, along with Paolo Fabbri’s research on the futuristic aesthetics concerning food (2013), as well as other works like the analyses by Calianro (2006) or Corrain (2013), which focus on the representation of the spaces for the sell and purchase of food.

On the other hand, Denis Bertrand’s *Un gâteau indo-européen* (2000, pp. 142–143; IT 2012, pp. 211–219), Gianfranco Marrone’s *La forma dell’arancino* (2005), and Paolo Fabbri’s *Texture: substance and form* (2003), investigate the recipes described in some literary texts—respectively Gustave Flaubert’s *Madame Bovary* (1951/1857), Johann of Bockenheim’s *Registrum Coquine* (1431–1435),

⁹ Cooking times and resulting effects, or specific valorisations arising from particular syntagmatic configurations.

and Andrea Camilleri's *Gli arancini di Montalbano* (1999)—aiming at the description of the social, cultural, and ideological structures they convey.

There are also many collections of literary extracts concerning food, cuisine, and eating, like Wenying Xu's *Eating Identities* (2008) or Tomoko Ayoama's *Reading Food in Modern Japanese Literature* (2008).

Finally, other works, such as Boutaud's *L'imaginaire de la Table* (2004), Boutaud and Madelon's *La médiatisation du culinaire* (2010), or Pozzato's *Il cibo nelle riviste per un pubblico maschile* (2006), focus on mass media representations of food and their effects, while other authors have considered these same topics in other domains such as cinema (Bianciardi 2011), advertising (Stano 2012, 2014b), or design (Stummerer and Hablesreiter 2005; Mangano 2013).

30.6 Food Between Subjectivity and Intersubjectivity: Taste, Commensality, and Roles

Speaking about food and eating implies considering another really significant topic: taste. Also known as gustatory perception, taste is interesting as it goes beyond the individual sensation, embracing the intersubjective and collective level: “taste is activated [...] in a subjective but also, immediately, inter-subjective dimension, as it seeks legitimacy through comparison and sharing” (Perullo 2008, p. 67, translation mine). If on the one hand the taste dimension depends on biological and physiological—and so individual—components, on the other hand, it seems to be socially and culturally determined, as it is based on intersubjectively defined patterns of valorisation.

Constantly hovering between *neophobia* (prudence, fear of the unknown, resistance to innovation, Fischler (1990)) and *neophilia* (exploration, need for change, novelty, variety, Fischler (1990)), taste represents a *cultural construct*: In addition to the physiological dimension, as Boutaud (2005) states, “the taste performance and the selection of more pleasant or energetic foods are often linked to social performance” (p. 96, translation mine). It is essential, therefore, to analyse not only the semic traits of the gustatory dimension and its links with the other senses¹⁰ but also and most importantly the interactions of society, culture, and perception. In particular, it is necessary to reflect on the importance of the spatial and temporal syntax for the testing experience, conceiving the moment of *gustatory sanction* as the encounter between physical sensations and sociocultural constructions.¹¹

In addition to the gustatory experience, it is essential to consider the concept of *commensality*, which, beyond the material and physical dimension of food experi-

¹⁰ Cf. classical texts such as Aristotle's *On the Soul* (IV sec. B.C., 2nd book: 5–6) or Plato's *Phaedo* (IV sec. B.C.), *Theaetetus* (386–367 B.C.), and *Sophist* (IV sec. B.C.), but especially most modern analyses like Merleau-Ponty's *Phénoménologie de la perception* (1945) or Dufrenne's *L'œil et l'oreille* (1987).

¹¹ Cf. Floch 1995b; Marrone 1997; Marsciani 1997; Fontanille (1999; Ricci and Ceccarelli 2000.

ence, refers to the symbolic space that characterises it, as well as to the *roles* and *forms* related to eating.

Eating together assumes [...] a ritual and symbolic meaning that is by far greater than the simple satisfaction of the need for nourishment: what we call *commensality* is a form of sharing and interchanging, and of identification. (Boutaud 2005, p. 23, translation mine)

With this respect, it is interesting to consider Erving Goffman's definition of *role* (1961):

The activity the incumbent would engage in were he to act solely in terms of the normative demands upon someone in his position. Role in this normative sense is to be distinguished from *role performance* or role enactment, which is the actual conduct of a particular individual while on duty in his position. (p. 85)

Being the "basic unit of socialization" (Boutaud 2005, p. 87), role is critical for any form of interaction, as the image of the *self* arises in its enactment: As there is a very strict connection between *being* and *doing*, individuals are requested to relate the impressions of themselves arising in the situation to the personal qualities corresponding to the role they are performing (cf. Boutaud 2005, p. 86). Thus, a judge should be deliberate and sober, a bookkeeper accurate and neat in doing his/her work, and a commensal hungry, prepared to "taste", and convivial.

But which *commitments*, which *expectations*, which *obligations*—to continue using Goffman's terminology—characterise the *eater*? To what extent is subjectivity subjected to processes of deconstruction that redefine it according to the roles required by commensality and tasting? By contrast, to what extent can subjectivity emerge, deconstructing those same roles, without undermining the possibility of existence of the eating experience?

First, referring to the *differentiation of roles* (Boutaud 2005, p. 91), it is necessary to distinguish between those who prepare the eating experience (the restaurant owners and the *chefs*) and those who "consume" it, which are at the same time both *observing subjects* and *observed objects* (by both the restaurateurs and other commensals). This observation evokes to the so-called problem of expression:

When an individual makes an appearance in a given position, he will be the person that the position allows and obliges him to be and will continue to be this person during role enactment. The performer will attempt to make the expressions that occur consistent with the identity imputed to him; he will feel compelled to control and police. (Boutaud 2005, p. 99)

While tasting common flavours or rather discovering new foods or tastes, *performers* try to control their expressive activity in order to express a certain identity, related to the specific role they enact in that moment. Thus, in experiencing new and unusual food, even if they do not appreciate the new tastes, they will try not to express their disgust, disguising it on the level of verbal expression, as well as on the *paraverbal* dimension (e.g. volume and tone of voice) and the *nonverbal* level (e.g. proxemics, gestures, and facial expressions). Even the control of the so-called techniques of the body (Mauss 1934), which are highly developed body practices that embody aspects of a given culture or group and can be adapted to different situations, would play a key role in this process.

By contrast, Goffman highlights that there are some exceptions: Roles may not only be *played* but also *played at*, or even *broke up* (cf. 1961, pp. 99–100). In the second case, performers will pretend to “live” the eating experience by assimilating it only superficially, as their paraverbal communication (facial mimicry, uncontrolled expressions of disgust, missing acts, Freudian slips) will reveal. They would thus succumb to errors regarding practices and behaviours, opening the way for the so-called civil disattention (Goffman 1963): The other diners and the restaurateurs will give them enough visual notice to demonstrate that they have seen them, “while at the next moment withdrawing [their] attention from [them] so as to express that [they do] not constitute a target for special curiosity or design” (p. 84). Despite being noticed, therefore, the uncontrolled acts and errors will be moved to the background in order to maintain the *frame* of the eating experience and its conditions of existence. Finally, in the third case, the same individuals will *break role*, by wilfully manipulating the eating act in order to drive even the restaurateurs and the other commensals to modify its forms and meanings.

Building on these observations, the eating experience seems to recall the sphere of *game*, as, just like the latter, its success and pleasure result from the ambiguity of this particular balance between social roles and subjectivity, as well as from the fact that it implies the exhibition of external attributes (cf. Goffman 1961, p. 67) by those who participate in it, that is, the display of their personal qualities.

From the point of view of narrative semiotics, therefore, eating could be interpreted as a sort of test for the *subject* (cf. Greimas 1970, 1983a) who, with a view to a positive *sanction*, establish a *contract* with the *sender manipulator*; whose figurativisation finds expression in the restaurateurs (tutors and guarantors of the eating experience) and the other diners (at the same time *sender manipulators* and *receiver subject* with respect to the considered subject). This game being open and flexible, moreover, it opens the way to a series of important possibilities, such as jokes, cheating attempts, or corruption or influence strategies.

In any case, according to Goffman (1974), the personal style of the individual arises precisely in the *role distance* (105): If the *interaction* permits the expression of the *self* by providing the symbolic material through which the self projected by an individual is confirmed or discredited, eating represents one of the central space for the expression of identity, where subjectivity is challenged by the interference of different beliefs and cultures, as well as by the tension between taste sensuality and moderation (cf. Boutaud 2005). On the contrary, this space is *multimodal*, as it implies different forms of interactions (e.g. the verbal language, the nonverbal dimension, or the temporal and spatial organisation). Moreover, despite involving given roles and rules, these processes include the possibility for even the simplest gesture to assume a peculiar social value, becoming part of a ritual dimension. Subjectivity, then, is always present, although hidden under the roles supposed by the eating act and the *interpellation* processes that inscribe the subject in a certain universe of competences, desires, functions, and passions. Far from eliminating the self, therefore, this space permits to perceive it in the unexpected situations in which the roles are broken and subjectivity can emerge.

30.7 Concluding Remarks: Which Semiotics of Food?

As noted above, analysing food implies considering different elements: The development of systems of classification in terms of edible versus nonedible substances, the logics underlying such categorisations and the social and cultural changes affecting them over time, the gustatory perception and its links with both the physiological dimension and the intersubjective level, the concept of commensality and the delicate equilibrium between social roles and subjectivity, the interpretation of food as a language and the analysis of the translation processes among different food cultures, and the numerous languages and forms of communication related to food universe. There are also many other aspects that cannot be considered here, but are very significant too, such as table manners, food design, drinks and beverages, the increasing presence of the so-called junk food, the opposition between fast food and slow food, or the eno-gastronomic tourism.

Being mainly neglected by semioticians for years, these topics have been at the centre of the analyses of different anthropologists, ethnologists, sociologists, historians, linguists, and psychologists. However, as highlighted above, being that food is a sign and a system of communication, it has also progressively caught the attention of semiotics. Different scholars, such as Barthes, Greimas, and Lévi-Strauss¹² before, and Floch, Boutaud, Marrone, or Fontanille after, have studied food and taste in order to decipher not only their grammar, as in the case of structuralists, but also to analyse the different texts, discourses, and practices related to them.

Food constitutes a very stimulating field of research for different approaches in semiotics, including not only the more traditional text semiotics but also sociosemiotics, semiotics of culture, and the so-called biosemiotics.

In effect, the analysis of food-related behaviours recalls various relevant issues in sociosemiotics, such as the tensions underlying the creation of meaning in social practices, and the development of patterns of signification across time, space, and different social and cultural circumstances (cf. Landowski 1989; Marrone 2001; Coble and Randviir 2009).

From the point of view of semiotics of culture, as developed by Lotman and the Tartu–Moscow school, culinary traditions and practices form part of the semiosphere, the realm within which semiosis (and so the production, the exchange, and the reception of all information and communication) exists. In cultural settings, in fact, different types of food, culinary techniques, eating events, and rituals are “signs and texts that are part of a culture’s overarching network of meanings” (Danesi 2006, p. 533). It is, therefore, very interesting to analyse contemporary societies, where food globalisation, migrations, and travels have brought numerous encounters, intersections, and conflicts among different food cultures. Lotman (1984) describes the semiosphere as composed by peripheral spaces, where new elements can be accepted in the signifying dynamics, and core areas, where the dominant semiotic systems are located. The relationship between the core and the

¹² Whose hybrid figure could be placed at the intersection between anthropology and semiotics.

periphery of the semiosphere is continuously negotiated, with peripheral elements moving toward the centre and interacting with the main semiotic systems according to rules changing over time. Food, as all levels of the semiosphere, comprises itself “an interconnected group of semiospheres, each of them being simultaneously both participant in the dialogue (as part of the semiosphere) and the space of dialogue (the semiosphere as a whole”;

Lotman 1984, p. 225). Therefore, in the realm of food, cultural meanings supersede the simple dichotomies generally implied to describe and discuss its characteristics (cf. Parasecoli 2011, p. 653; Caldwell 2004; Wilk 2006): global versus local, authentic versus invented, artisanal versus industrial, and so forth.

Finally, as Parasecoli states,

Since studying culinary systems means dealing with eating and ingesting—a dimension closely connected with the survival of the human body—and food is mostly composed of plants and animals, the field is also open to reflection for the approach known as biosemiotics. (Parasecoli 2011, p. 647)

Drawing upon Kull’s observations (1998a, b, 2001) on the link between sign systems and living systems and his definition of the semiosphere as the space of diversity (2005, p. 185) where qualitative differences can emerge, fuse, and sustain, as well as on Sebeok’s statement (2001, p. 69) that food represents a realm of nature characterized by the interaction among the physiological dimension of nutrition, the cultural aspects of signification and communication, and the social structures of production, distribution, and consumption, the scholar concludes that:

The analysis of food through the lens of contemporary semiotics, in particular within the debate on the semiosphere and biosemiotics, can help focus on bodies not as closed entities but as processes and practices, highlighting their relational aspects (with humans, other living being, and the whole environment), and their role in semiosis. [...] A semiotic analysis of food can help us achieve a more nuanced and holistic interpretation of semiosis as a process that involves not only the mind but also the whole embodied experience, well beyond sensory perceptions. (Parasecoli 2011, p. 661)

Moreover, as Volli (2000, pp. 282–284) reminds us, beyond materiality, the body is a particular and ambivalent type of text that marks at the same time the origin and the limit of the processes of signification, mediating between subjectivity and cultural identities. It could be really significant, therefore, to analyse the way it participates in food-related experiences, paying particular attention to the encounter of different food semiospheres and to the delicate equilibrium between social roles and the expression of the self. More attention, then, should be paid to *corporeality*, building on concepts such as the “techniques of the body”, the principle of incorporation (from Fischler’s analysis to new developments), the sensory dimension and its interactions with the sociocultural sphere, and the crossing of the barriers between the inside and the outside of the body, in order to decipher both food providers and consumers’ *practices* and the forms of textuality that these practices deposit in their recurring.

It is also essential to reflect on the *spatial* dimension, considering various aspects: The opposition between global and local, the new concept of *translocal* (Schiller et al. 1992; Ong 1999; Low 2009), the configuration of the space where

food is eaten, as well as the organisation of the space of the table and that inside the plate, and the presence of oppositions like “inside” versus “outside” or “internal” versus “external”. Moreover, interesting new outcomes could derive from the concept of *embodied space* (Low 2009), intended as the location where human experience and consciousness take on material and spatial form. This approach stresses the importance of the body not only as a physical and a biological entity but also as lived experience and a centre of agency, thus addressing particularly to issues such as proxemics (Hall 1968), phenomenological understandings (Richardson 1984), spatial orientation (Munn 1996), and incorporation (Fischler 1990).

Even if some first attempts have successfully shown the importance of applying semiotics to food-related issues, there is still much to do. It is necessary, first of all, to pay special attention to issues until now mostly neglected but increasingly evident and significant in contemporary societies, such as food globalisation and the translation processes among different food semiospheres, but also to enhance the research on more addressed topics, like gustatory perception or the links among food, language, and communication, by complementing the more traditional approaches, such as structuralism and text semiotics, to the new branches focussing on the observation of practices, social dynamics, and other tools of analysis. Moreover, it would be profitable to maintain and improve the dialogue with other disciplines like anthropology, sociology, and other branches of the so-called food studies, whose interactions in the analysis of meaning and structures underlying food-related habits and facts could lead to very interesting outcomes, as most of the above-mentioned examples illustrate.

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Simona Stano (www.simonastano.it) recently gained a Ph.D. in sciences of language and communication from the University of Turin (Italy) and a Ph.D. in sciences of communication at the “Università della Svizzera Italiana” (Switzerland), receiving the highest grade (summa cum laude). During her doctoral studies, she was a visiting scholar at the University of Toronto (Canada), where she also obtained a research fellowship. She also holds an M.A. in multimedia and mass communications (University of Turin), a B.A. in communication studies (University of Turin, Italy, and “Universitat de Valencia”, Spain), and a postgraduate degree in intercultural studies (“Universitat Autònoma of Barcelona”, Spain). She deals mainly with semiotics of food and semiotics of culture and has several articles and chapters of books (as well as a forthcoming monograph) on these topics, many of which were presented as papers at national and international conferences. She has also published several articles and chapters of books on communication, mass media, and visual and urban studies.

Part V
Society, Culture, and Semiotics

Chapter 31

Semiotics of Culture(s): Basic Questions and Concepts

Franciscu Sedda

31.1 Is Semiotics Necessary to Life?

“Is Semiotics necessary to life?” The question might seem overly simple. But it is relevant, and not only for students attending courses on semiotics. The very fathers of semiotics had to pose the question themselves.¹ This is because the question addresses issues of fundamental importance. In fact, when we ask the question of whether semiotics is necessary to life we also ask other questions: Is *semioticness* a quality of human beings and of humankind? Are we intrinsically “semiotic beings”?

Given this starting point, the search for an answer may easily lead to extreme positions. These extremes may be represented by the positions taken by philosopher Paul Ricoeur and semiotician Algirdas J. Greimas in a 1984 debate held at Victoria College in Toronto on the “Universals of Narrativity.”² On the one hand, Ricoeur pushed his position toward the assumption of a merely *historical* point of view of the issue. He considered semiotics as a mere discipline—a latecomer—among others. For him, semiotics had not been necessary to human beings for a long time, which proved that it was still unnecessary in the present day. On the other hand, Greimas maintained a position according to universality to semiotic structures. For him, semiotic analysis could identify this universality in myths and tales from all

¹ One of the first and major examples of this kind is the following statement by Charles S. Peirce: “(...) there is no element whatever of man’s consciousness which has not something corresponding to it in the word; and the reason is obvious. It is that the word or sign which man uses is the man himself. For, as the fact that every thought is a sign, taken in conjunction with the fact that life is a train of thought, proves that man is a sign; so, that every thought is an external sign, proves that man is an external sign. That is to say, the man and the external sign are identical, in the same sense in which the words homo and man are identical. Thus, my language is the sum total of myself; for the man is the thought.” (Peirce 1931–1935, 5.314)

² See Ricoeur and Greimas (2000).

F. Sedda (✉)

Department of History Culture and Society, University of Rome “Tor Vergata”, Roma, Italy
e-mail: sedda@lettere.uniroma2.it

over the world. Greimas was aware of his risky move toward a *naturalization* of semiotics and of meaning. That is to say, his would be a move to a position considering the structures identified by semiotics as properties of nature or of the human mind; as a consequence, he would fall in the domain of metaphysics.³

These problematic positions deserve reflection. For each journey toward an edge invites thought to engage in elegant and brilliant syntheses. To provide a simple and useful example, let us return to Paul Ricoeur's position. Engaged in the public debate with his friend Algirdas J. Greimas, Ricoeur finally recognized to semiotics a function to *explain more in order to comprehend better*. In other words, semiotics would be essential for penetrating what we already apparently know and possess. This would be true regardless of whether semiotics is a discipline in itself. Ricoeur's position was a generous one: However put, when compared to common sense, semiotics and semioticness would always "rank second." We would like to argue that despite its usefulness, this idea is not complete. We believe that working on the border between common sense and semiotics, we may be able to shed new light on the role of semioticness. And in the process, we may also reach a more comprehensive point of view on the cultural complexity that surrounds us. Ultimately, we think we must *explain better in order to comprehend more*.

To achieve this difficult task, we turn to a new interpretation of some passages by Russian semioticians Juri M. Lotman and Boris A. Uspensky. In their introduction to the volume entitled *Semiotic Researches*, published in Italy in 1973, they tie in some passages natural and cultural dimensions, implicit and explicit practices, everyday and scientific knowledge. In their own words, "the semiotic point of view is organically intrinsic to human conscience and in this sense it is not only an old phenomenon but a well known one" (Lotman and Uspensky 1973, p. XII). According to Lotman and Uspensky, the key point is that man, following his naive and everyday consciousness, does not know it and needs a "scientific" knowledge in order to discover his own semioticness. This reasoning appears quite contradictory: How can semioticness be at a same time well known and not known? The solution, or at least the explanation of the contradiction, is what may lead to a better understanding of the role of semiotics in our lives; and the best way to explain it is to recall simple *language games*, to use Wittgenstein's lexicon.

The scientific knowledge we need in order to help that which already and intimately belongs *to* our consciousness (of our own body!) to emerge to consciousness, is not a type of knowledge that, for instance, provokes the "I would have never thought that!" reaction in an audience, such as it may occur when we discover and understand the theories of relativity, strings, *exaptation*, genome structure, etc. The kind of knowledge that related to the discovery of our intrinsic semioticness may be glimpsed from another kind of reaction: "I have always known it!". We thus find it

³ "If I were not afraid to breakthrough into metaphysics I might even say that semio-narrative structures are properties of human mind" (Greimas, in Ricoeur and Greimas 2000, p. 85). For an explicit project of naturalization of meaning, see Petitot (1985).

in the acknowledgment of a truth that was already there, and which only waited to be recognized.

If we now return to Lotman and Uspensky's contradictory reasoning and to our initial general question, we see that the articulation of these two language games enables us to assert no less than a *double necessity* of semiotics. Indeed, on the one hand, we can say along with Lotman and Uspensky that "implicitly, the semiotic point of view is always present in man's actions and consciousness" (Lotman and Uspensky 1973): In this case, we can say that semioticness stands *upstream*, being part of us always, and in any case, and beyond our being aware of it. On the other hand, semiotics as a discipline belongs to a general scientific trend of the humanities in the twentieth century. Semiotics shares with other disciplines in the field of the humanities the aim of explaining what had never been analyzed before for the simple reason that it was "simple and evident" (Lotman and Uspensky 1973). This would be exactly true for things such as language, everyday life, and culture. It is then apparent that this kind of position preserved, and still preserves, the possibility of establishing a *science of languages*. It does so by avoiding the abrogation of the bare fact that we live through the production and use of texts and languages without giving explicit or formal description of their rules of functioning. Is it not true that we call our mother tongues "natural languages," while we somehow forget or deny their powerful and effective artificiality? And what about the many cultural but unperceived ways in which we fashion our bodies, our gestures, our feelings, and the manner in which we relate to others, and even with our closest and most intimate relations? From this point of view, then, semiotics is part of a broader historical and scientific movement whose task is to make explicit and explain the mechanisms and devices that structure our cultural life, our common ways of living, and our ways of living in common.

Therefore, if we can accept Lotman and Uspenskij's idea according to which the development of semiotics as a discipline is a form of *knowledge of knowledge*, yet we think that this knowledge of knowledge would remain unfruitful if not used to strengthen our capacity of analyzing the formations of cultures we live through, grasping the forms of expression and content that structures our life giving shape to our subjectivities.

Finally, we can say that by means of this double movement, we have attempted to formulate a concise explanation of how we can become fully aware not only of our necessity for semiotics but also of our being in all senses *semiotics beings*. To restate the problem, we needed semiotics as a scientific knowledge, as an *explanation*, in order to understand our intimate semioticness, that is, our understanding and acting only through semiotic structures and devices that belong to us even if they normally elude our grasp.

We thus believe that the answer to the question "Is semiotics necessary to life?" has to be "Yes, twice and always!"

31.2 Which Subject?

The first consequence of the *double semioticness* we singled out in the preceding section is that semiotics thus recovers the possibility of conceiving itself as *action*. In other words, semiotics is not only a discipline that enriches its theory or explores new experiential or semantic fields but also a true “action on things, an achievement.” These words are by Greimas, who also claimed that he had been “fooled for a long time” exactly for sustaining that semiotics had a sort of “vocation.” In fact, according to him, semiotics was not simply a way of understanding social or individual facts but “also a way to transform the social and the individual (...) a sort of therapeutic of the social” (Greimas 1987, p. 169).

Certainly, in the human sciences, not only semiotics and semioticians had to pay the price of being fooled for their willingness to change reality. So even if the idea of a sort of “semiotic therapy” may appear excessively strong, contemporary semiotics of cultures reaffirms its roots in a *performative* idea of the discipline. On the one hand, it is a discipline that seeks to cultivate the idea of a scientific, precise, and inter-defined language, with its set of theoretical concepts and a shared methodology.⁴ Yet on the other hand, it seeks to enliven its vocation with full *action* and *agency*. In this sense, contemporary semiotics may define itself as a *poetic* and a *poietic* of everyday life.⁵

It is quite evident that, in this manner, the semiotician reaffirms herself as a *political subject*, one who must be accountable for the potentiality and the limits that are implicit in the production of her discourses and analyses. In other words, if a semiotician reclaims her will of acting on the world, then she has to confront the problem of her own power, even if this power is (or appears) indeed modest.

As Umberto Eco has rightly pointed out, semiotic research has to be aware of its “ideological limits,” because “theoretical research is only one among many forms of social practice” (Eco 1975, p. 45). *Who wants to understand something, wants to make something*, we might say paraphrasing another of Eco’s statements.

To honestly declare the point from which the semiotician talks about and looks at the world; to state from which viewpoint she aims at transforming and giving form to reality; to clearly say on behalf of whom she speaks and acts. All these actions contribute to situate the subject and to give credibility and strength to her critical work. Yet these actions would amount to nothing if a door for a deeper and more radical transformation was not left open. In fact, when it comes to real research, just like the most innovative works of art, or in moments of deep social transformation, the subject reveals herself only *ex post*; and such kind of revelation occurs because the subject constitutes herself through the same research, work, or enterprise that more or less directly calls her into question. Hence, the *political subject of semiotics* is not the mere author of a text or of an action. The political subject of semiotics is

⁴ The major example of this kind of purpose is represented by the dictionary of semiotics developed by Greimas and by the so-called “Semiotic School of Paris.” See Greimas and Courtés (1979).

⁵ See also de Certeau (1980).

the *strategy and organization of knowledge and feeling that defines a set of values to endorse and support*. Our subject—the semiotic subject, the subject of semiotics—emerges within the discursive practices that shape our lives, whether they pertain to the fields of politics, religion, art, science, or everyday behavior. The subject emerges *from* and *within* the semiotic formations we produce, both in our theorizing at home and in our demonstrating on the streets.

And so there is no “safe zone” for semiotics, and no “extraterritoriality” for its subject, as Roland Barthes argued. Semiotics must always act “to interrogate itself about the place from which it speaks” (Barthes 1985, p. 8).

Semiotics, then, works with no guarantees.⁶ And, first among all, it works with no guarantee of truth. Yet at the same time, semiotic research cannot escape from constantly generating its point of view on truth, its effects of truth, and its potential collective truths.

In this sense, what we must do is to leave open the possibility for research to call us into question: To properly and foremost of all question us, the subjects who develop research. We must accept that the shadow of the subject that stands out within works and from our words enfranchises itself. We must grant this shadow the possibility of materializing itself and criticize our work, up to the point of requiring from us, before anyone else, the conscious assumption of a new point of view and a new way of acting on the world.

When this is accomplished, we find ourselves before the superb definition of semiotics that Jacques Geninasca, not surprisingly a semiotician and an artist, once pronounced: “Semiotics is the discipline that transforms the one who practices it.”

31.3 Culture or Cultures?

Definitions matter If we say “semiotics of culture,” we fatally emphasize some aspects and qualities, while we lose or tend to neutralize others; we may hold onto a theoretical vision, a desire of generality, or jump into the whole and the abstract, yet we jeopardize concreteness and detail and neglect the unceasing flux and thick texture of cultural life. On the other hand, we might say “semiotics of cultures.” But as we bring on stage the heterogeneous, plural, lived, bodily dimension of this strange object—subject that is culture, we risk losing sight of that which holds together and articulates this heterogeneity, giving some unity to the phenomenal multiplicity of the world, and letting this plurality meaning something *for us*.

Culture/Cultures We cannot escape from this trap. Yet we may just inhabit it. Even better, we must live inside the relation—between culture and cultures, singular and plural, global and local, dynamism and stability, predictability and unpredictability, and order and chaos—because we are constituted *in relation* and *of relations*. And

⁶ From this point of view, a common approach in the field of cultural studies and anthropology can be found in the works of Stuart Hall and James Clifford. See, for example, Hall (2006) and Clifford (2003).

if someone wants to kill culture(s)—or simply offend it—one has to barely deny or avoid caring for the complex net of relations that culture(s) actually is(are).

It is not a mere matter of ethics. It is an issue of theory and method. In effect, if we think about it, we can easily admit that we never encounter “a culture,” “a civilization,” or “an epoch” as an enclosed and complete totality. No one ever met “Japanese culture,” “Western civilization,” or “the Modern Age” as totalities in and of their own. But there is more. We have not even met ourselves as totalities. The truth is that every day, by the acting of various forms and formations, we define our personal identity by preserving and at the same time effacing something of our own life, something of who we are.

On the other hand, while we recognize heterogeneity, incompleteness, and indeterminacy as part of our lives, we still can and must affirm the various “pieces” that populate our world(s) that gather together, structure themselves—at least for someone or under a certain gaze—thanks to an unfinished social work. We have neither met a closed totality nor one of its fragments alone. Let us reflect on the worst instances of injustice and violence that shake and shatter our world. On a superficial level, they may seem to outline the figure of a world in pieces, full of nonsense, chaos, and disorder. And yet for someone, for a given *semiotic subject* fashioned and constituted by means of given *semiotic formations*, there may still be a meaning in such world, even a global meaning, as is the case for some theological and/or teleological views: redemption through sacrifice, expiation through suffering, and elevation and unity through the overcoming of adversities. From another point of view, the same *world in pieces*, seemingly abandoned by God and metanarratives, may reveal its local spaces of meaning, full of “typical” deities and “little” metanarratives. Here, the global disorder would not be the result of a lack of form but of an *excess of forms* in noisy competition.⁷

To cope with such complexity, then, we need what we may call a *stereoscopic gaze*. That is to say, we must simultaneously look at broad horizons and in great depth. We must look in multiple and perhaps competing ways. We might even say that a *cross-eyed gaze*, one that carries unwanted blurring effects, may be useful if it helps us maintain a simultaneous focus on multiple planes of vision.

What is important is to define the necessary sensibility, the theoretical foundations, and the methodological tools to accomplish this difficult task. Let us provide some guidelines in the following examples.

First of all, we need to recall Lotman’s last words, with which he invited semioticians:

to see history in the mirror of *byt* [everyday life] and to illuminate the seeming hodgepodge of small details of daily life with the light of major historical events. (Lotman 1997, p. 13)

In the simplest and most sensible of manners, this sentence contains all the dense and circular complexity of the semio-cultural gaze that we are discussing and proposing.

⁷ We developed this argument in Sedda (2012).

In a more abstract and theoretical manner, the same position has been taken and maintained by Clifford Geertz, among the American anthropologists who more explicitly engaged in a dialogue with semiotics during the twentieth century:

Hopping back and forth between the whole conceived through the parts that actualize it and the parts conceived through the whole that motivates them, we seek to turn them, by a sort of intellectual perpetual motion, into explications of one another. (Geertz 1983, p. 69)

In order to rapidly reach a more precise and methodical point of view on the issue, we should recall linguist and semiotician Louis Hjelmslev and, in particular, the double movement of *analysis* and *catalysis* he proposed in his *Prolegomena to a Theory of Language* (1961).

According to Hjelmslev, the analytic descends toward single speech acts, and the comprehension of their value obliges the researcher—*but why not common people?*—to begin a synthetic and simultaneous rise toward the apprehension of the whole system which is at stake in a specific communicative situation:

The individual act of speech obliges the investigator to encatalyze a system cohesive with it [;] the individual physiognomy is a totality which it is incumbent on the linguist to know through analysis and synthesis—but not a closed totality. It is a totality with outward cohesions which oblige us to encatalyze other linguistic schemata and usages, from which alone it is possible to throw light on the individual peculiarity of the physiognomy; and it is a totality with inward cohesions with a connotative purport that explains the totality in its unity and in its variety. (Hjelmslev 1961, p. 126)

In other words, during semiotic research—but, as we said earlier, we think that the same happens, perhaps with another rhythm and thickness, in everyday life—we should simultaneously grasp the parts and the whole, wherein the whole “is not closed,” as Hjelmslev said, but can be a set of relations that we perceive as “internal” when compared with other sets of relations that are considered “external”; the latter are relations that appear as external in the very moment when our intellectual work encatalyzed them in order to define the border between what is and what is not internal and, therefore, pertinent.

What is at stake here, however, is more than mere intellectual work. Perception and imagination are also at stake. The process of analysis, particularly in the generation of *meaning in action*, has to do with perception, as well as with the process of catalysis, which implies imagination, for example, in the forms of abduction. As Goodwin (1994) demonstrated in his work on “professional visions”—e.g., archaeological or legal visions—the definition of objects and their meaning depends upon analytic, embodied, and intersubjective practices of *highlighting* and *representation*, and at the same time upon contested encatalyzations of general *coding schemes* that frame the situation in its unfolding.

To make a simple example, we would never understand the meaning of a fragment of pottery (and probably we would not even recognize it as “fragment” and as “pottery”), if we were unable to imagine and perceive the pot and the moments of the everyday life and the civilization it was a part of. Yet at the same time, our imagination of the whole has to be rooted in that fragment of pottery. It has to depart from that semiotic formation to possibly develop itself in the best and most correct

way. It is only through this circular movement, one that, in real cultural life, always involves and crosses various semiotic formations, that we define and individuate *meaningful cultural series and configurations*.

Finally, we should consider that here we are not just grasping the part and the whole, the internal and the external, as if they already were given entities. Actually, we *generate* the parts and the whole as we generate ourselves, and our position, in relation to the part(s) and to the whole(s). Moreover, due to a movement of exclusion that operates in this semiotic device, we also generate the “outside.”

What we refer to as *subject, formation, world, and outside emerge in relation*, or, as we would like to put it, *co-emerge*. They are *positions*: Specific sets of relations in mutual and specific correlations. Moreover, as we will see in the next chapter, they are simultaneously singular and plural. In this sense, our reality reveals itself as full of conflicting, dynamic, entangled, overlapping subjects, formations, worlds, and outsides.

31.4 Semiosphere(s)

A continuous proliferation of worlds within the world; or better, a continuous proliferation of semiospheres within the semiosphere. But what precisely is the “semiosphere”?

According to Lotman, the semiosphere is the space of meaning. More accurately, the semiosphere is the only *continuum* inside of which the life of meaning becomes possible. The idea, developed in 1984, by Lotman, in his famous essay on this topic, is that there cannot be a sign or language that is isolated and that functions alone (see Lotman 2005). Meaning requires relation. A sign only obtains its meaning as a part of a broader space, of a system of signs. A language functions only in relation with other languages.⁸ The semiosphere is the space where signs can arise, where languages become effective, and where meaning can be created, exchanged, and transformed. The semiosphere in this sense is like the sea for a fish and for a stream. Life or existence may not be possible for the latter two without the former. Yet as we have argued in the preceding paragraphs, the whole owes its very existence to its parts. These are like magic mirrors through which we glimpse an image of the whole; or, put another way, these parts are at the same time a *partial translation* and a *performative hypothesis* of (a certain) dynamic totality.⁹ Only by keeping in mind

⁸ Here follows the first of the *Theses for the Semiotic Study of Cultures* written by Lotman and other scholars in 1973: “[1.0.0.] In the study of culture, the initial premise is that all human activity concerned with the processing, exchange, and storage of information possesses a certain unity. Individual sign systems, though they presuppose immanently organized structures, function only in unity, supported by one another. None of the sign systems possesses a mechanism which would enable it to function culturally in isolation” (Ivanov et al. 1973).

⁹ In this sense, a semiosphere, or better, a given semiotic formation, acts like Silverstein’s *indexical signal form*: “Any indexical signal form, in occurring (a contingent, real-time, historical happening, with possible causal consequentality) hovers between two contractible relationships to its

this kind of warning can we render the idea of semiosphere in a fruitful manner. This is because the mechanism of the semiosphere is rather complex, but above all, because it implies various structural paradoxes.

To begin, there cannot be a semiosphere, that is to say, an “internal” space, without the simultaneous presence of an “external” space.¹⁰ In this sense, the definition of a semiosphere is always *relational*. In its more general and abstract aspect, the semiosphere takes the form of a relation between a *semiotic* and an *extra-semiotic* space,¹¹ mediated through the presence of a *border* that simultaneously *connects and divides* the two. In this sense, a semiosphere is like a language—a *semiotic form* that filters and regulates the translation from the extra-semiotic into something meaningful. From this point of view, the outside, conceived as an *amorphous matter*, is something that surrounds the form and constantly passes through it. So, we may conceive a semiosphere as a net laid down on matter, one that captures only some elements or some emerging configurations, which, in turn, are part of this unstable and energetic foundation (or background) that pushes on the borders of form. Nonetheless, from another point of view, Lotman and other Russian semioticians suggest that is the very semiosphere that produces its inner chaos, its unavoidable irregularity. In other words, each semiosphere has its own specific form of chaos. By developing this idea, we would like to argue that every semiotic formation contains and produces chaos, that is, specific forms of chaos. Similarly, speech can produce sense that is rich of redundancies, incongruities, contradictions, errors, and voids. Each semiosphere, each semiotic formation, simultaneously produces sense and nonsense, as well as translatability and untranslatability.

We reach here our second point. As we have noted, even the simplest relational mechanism implies a dynamic idea of culture and cultures. This view bears multiple consequences. The first consequence is that external space, the outside, generally conceived as the space of chaos and disorder may be, and, generally speaking, the space of *another semiotics*, of *another semiosphere*: It is a space not perceived or recognized as such. This lack of recognition is due to ignorance or dominance, involving relations of knowledge and power. Furthermore, under normal circumstances, the external is simply recognized as the *space of the other* or as *otherness*. And in this sense, the external may assume different forms: It may be the space of nonculture (the absence of “values”), of the negation of culture (another culture that denies and threatens “our” values), or of other cultures (with different values

“contextual” surround: The signal form as occurring either *presupposes* hence, indexes) something about its context-of-occurrence, or *entails* [*creates*] (and hence indexes) something about its context of occurrence (...)” (Silverstein 1993, p. 36).

¹⁰ It might be useful to recall here one of the definitions of culture given by Clifford (1980, p. 220): “a totality in process, composed and recomposed in changing external relations.” See also Clifford (1988).

¹¹ The opposition between “culture” and “nature” can be regarded as one of the most common translations and objectifications of this kind of relation. But it can also operate in other kinds of oppositions. For example, Lotman often mentions the opposition between “civilized” and “barbarous.” Another general category that may fit this relation is that between “one’s own” versus “others’ own.”

but nonetheless similar or complementary to ours). From a political and typological point of view, these three conditions may lead to specific forms of behavior: expansion, protection, alliance/dialogue/indifference. The same appreciation of otherness may and actually does vary. From time to time, otherness can be perceived and/or described as attractive or repulsive, in the terms of a basic phenomenological category. Furthermore, according to Lotman, each semiosphere creates within its own space an *image of the other* (and of its many others). This presence of the external within the internal is so necessary and fundamental that, with no external space to translate, a given semiosphere invents its own other—the *position* of the other—inside the cultural system. Cases of cultural encounter, for example, colonial encounters, demonstrate that the *arrival of the other* was generally received by placing it in an already established position within some sort of “local cosmology.”¹²

The third point is that the place of the border is mobile and unstable. First, because different places of borders depend on the point of view of different observers, who are, in turn, clearly placed within different semiospheres. Second, because the place of the border is the space of translation between the internal and the external. Therefore, it has a weaker level of structurality and a higher level of dynamism. Third, because the border is not necessarily a line but a sort of space: It is a “third space”¹³ in the sense that it is *in between*, while at the same time it produces its own semiotic personality with its own rules and values. The phenomenon of the *creole*, that is, of contact languages, is generally utilized to represent the result of the encounter between different semiotic forms that, in the long run, tend to generate a new language through the hybridization (initially perceived as an impoverishment) of the first two languages.¹⁴

The fourth point is that the semiosphere is a *glocal device*.¹⁵ A semiosphere always reveals itself as a part of a “greater” semiosphere, or as a set of multiple and “smaller” semiospheres collectively gathered. Even human culture, as remarked by Lotman, may be regarded as a text floating in the space of a larger semiosphere. The point of view of a scientist who studies earth and humanity as the result of the laws of the universe, or the point of view of a believer who conceives man only as a part of a more general creation, may represent this kind of idea. Now, to put it with a metaphor, what we should note is that semiospheres are not placed one inside the other in the fashion of Russian dolls. The production of the so-called structural isomorphism is a matter of power: It depends on the capacity to reproduce the same semiotic model—a particular arrangement of relations—on different hierarchical levels and, simultaneously, on the possibility of constantly confirming that specific hierarchy with its own levels and meta-levels. However, the truth is, semiospheres

¹² See, for example, Sahlins (1993, 2000). Another example is West (2007).

¹³ Bhabha (1994).

¹⁴ On creole and creolization, see Bernabé et al. (1989) and Glissant (1996).

¹⁵ On glocal and glocalization see Robertson (1995) and Robertson and White (2004). For glocal and glocalization from a semiotic point of view, see (Sedda 2004, 2012, 2014).

generally intersect, at least on some level, producing conflictual tensions,¹⁶ as is the case for the general values and models of citizenship promoted by state policies and for those that emerge from within local communities and their life practices, or when in particular situations the secular values and practices proposed by a particular nation clash with the local translation of values and practices of a universal religion. And again, when different ideological viewpoints compete for the definition of a particular “fact” or “event.” Finally, when the official language of a specific semiosphere finds itself surrounded and challenged by other languages entering or already positioned in the same semiotic space.

Not surprisingly, in light of this reasoning, Lotman remarked that:

In the reality of the semiosphere, the hierarchy of languages and texts, as a rule, is disturbed: and these elements collide as though they coexisted on the same level. Texts appear to be immersed in languages which do not correspond to them, and codes for deciphering them may be completely absent. (Lotman 2005, p. 213)

And yet, a large portion of social work is devoted to the creation of *meta-formations*—meta-texts or metalanguages—like a national constitution or an official standard language.¹⁷ They not only constantly reaffirm the presence of hierarchy but also offer a *common semiotic space* to the collectivity. This space may be regarded as a *field of translation* that allows communication, self-constitution, and recognition, but which, at the same time, is an *arena* where *shared conflicts* become possible.

At the highest meta-level, this movement of unification acquires the form of *self-consciousness*. From the point of view of the semiotics of culture, this form of self-consciousness is defined as a shared *meta-description*:

In order to fulfill its social function, culture has to appear as a structure subject to unified constructive principles. This unity comes about in the following manner: at a specific stage in the development of culture, there comes a moment when it becomes conscious of itself, when it creates a model of itself. The model defines the unified, the artificially schematized image, that is raised to the level of a structural unity. When imposed onto the reality of this or that culture, it exerts a powerful regulating influence, preordaining the construction of culture, introducing order, and eliminating contradiction. (Lotman and Uspenski 1978, p. 227)

It is then clear how conflicting tensions toward unity and diversity, homogenization and heterogenization, and articulation and disjuncture are always at play. Such tensions are at play between semiospheres, among semiospheres, and inside a semiosphere. The same struggle between different models of unity and different ways of articulating collectivities enhances this paradoxical double effect. Indeed, on higher meta-levels, we especially confront what we may call a continuous *clash of (self-) definitions*. In this sense, all semiotic formations simultaneously produce possibilities of order and of chaos.

¹⁶ On this topic, see the ideas of *disjuncture* and *production of locality* in Appadurai (1996).

¹⁷ On the social role of standards and networks in general, see Grewal (2008). For a point of view on networks close to semiotics, see Latour (1991, 2005).

31.5 Formation(s)

As we have noted, a semiosphere in its broader sense can be described as the space of meaning. Now, according to Lotman, it can also be defined as an “ensemble of formations”¹⁸ of different kinds and placed on different levels of the very same semiosphere. To explain culture (in general) and cultures (in detail), however, Lotman seems to privilege the idea of *text* over the idea of formation. Here, we would like to consider the ways in which the concept of formation can be useful for contemporary semiotics. Furthermore, we would like to argue that the idea of formation serves as the general concept containing the concepts of sign, text, and discourse as its species and specifications.

To accomplish this task, we set out from the definition of “formation” as found in the Oxford Dictionary of English.¹⁹ We can identify three meanings or qualities, all of which are useful for a redefinition of a semiotic theory of culture(s).

In a first sense, the idea of formation points to both “the action of forming something” and the condition of “being formed” by something. This first sense stresses the attention on the relation between *action* and *passion*, where the latter is conceived as the point of view that the one affected by the action has of the action itself. According to semiotics—but also to some branches of Hermeneutics—life can, on a certain plane, be conceived as a net of action/passion relations.²⁰ Let us set forth an example. If I see that my students are unenthusiastic about the class I teach, I may change, in an attempt to transform the student’s attitude, the style, or contents of what I say. Or, put another way, I can change what I say to transform the *state* in which they find themselves in that moment. The result of my action, that is, their being enthusiastic, or rather, their being increasingly uninterested and frustrated, is their *passion*: This is their point of view on my action. At the same time, their *passion is an action* in itself. Let us pause and think about it. I changed my teaching style exactly because their lack of enthusiasm affected me and encouraged me to transform my behavior, and more specifically the condition I was experiencing. And if after changing my way of conveying the teaching topic I feel relieved, that is exactly because I saw the students more involved in the class. Hence, action and passion are inextricably tied together. The one provides the point of view on the other. Moreover, their continuous correlation forms the texture of our lives. In this first sense formation, intended as formativity, is the very core of what semiotics

¹⁸ “And this also lies at the heart of the notion of semiosphere: the ensemble of semiotic formations precedes (not heuristically but functionally) the singular isolated language and becomes a condition for the existence of the latter. Without the semiosphere, language not only does not function, it does not exist. The different substructures of the semiosphere are linked in their interaction and cannot function without the support of each other.” (Lotman 2005, pp. 218–219).

¹⁹ Formation: “1. The action of forming something or the process of being formed; *the formation of a new government//habit formation in children//What influences the formation of national character?*; 2. a thing that has been formed, especially in a particular or characteristic way: *cloud/rock formation//new word formations*; 3. a particular arrangement or pattern: *aircraft flying in formation//formation flying/dancing*.”

²⁰ See for example Greimas (1983), Ricoeur (1983–85), and Fabbri (1998).

refers to as *narrativity*. This is the abstract structure of every narration, which in its basic formulation is the passing from an initial state (passion1) to an ensuing state (passion2) through a transformation (action). This is, approximately, what Aristotle argued in his *Poetics*.

In a second sense, the idea of formation connects the idea of a *process* with the idea of the *result* of the very same process. Thus, the result of a formation process may be seen as the *system*, the memory, and matrix of (potential) past and future processes. Now, as we read in the Oxford Dictionary, formation is “a thing that has been formed, especially in a particular or characteristic way,” like a *cloud/rock formation* or a *word formation*. Let us play with these examples. What is a cloud formation? It is a *rhythm*, a form in movement.²¹ It is the perpetually changing result of a potentially infinite process. A cloud formation is, moment after moment, the form taken by a series of transformations and part of transformation itself. Moreover, as we learn from the chaos theory, a cloud formation is both regular and irregular, predictable and unpredictable.²² And, furthermore, what is a rock formation? It appears as something stable, despite of its being the effect of a long formation process. Yet it is also a form of *memory* of the formation process itself. The rock’s inner stratification retains the traces of former relations (of time, space, actors) and, in a way, of new potential transformations. Similarly, a “word formation”—as in the example of the “fisherman” in Greimas and Eco’s words²³—is a semantic memory. And, at the same time, it is the matrix of all stories, told and to be told, about a given word. Similarly, an *utterance* is simultaneously the result of an act of speaking, that is, a specific process of formation, and the very formation that retains the traces of this process. Thus, in this second sense, formation indicates both the dynamic and the static condition of a cultural space. This train of thought may also help us focus and explain the complex relation between cultural change and cultural stability.

In a third sense, a formation is “a particular arrangement or pattern.” Here, formation relates to another basic semiotic pair: *substance/form*. A formation is an arrangement of elements, a sort of plural and heterogeneous composition. This can be compared to the substance of the world, or to the world considered as a semiotic substance: A world constituted by different semiotic elements tied or mixed together; a syncretic articulation of languages; a varied combination of linked signs. So if we return to the former example of the students in a class, we may say that when I teach, the meaning of what I say is not only rooted in the semantics of spoken language. My enunciation is a complex and heterogeneous formation. Its effects on an audience depend on the specific correlation between different languages. And this correlation is what transforms a series of semiotic acts that are, in turn, fashioned by different languages, into a *globality of meaning*.²⁴ Therefore, the meaning and the effect of what I say to the class depend not only on spoken language but also on the intonation, rhythm, and accent of my enunciation; they also depend on the

²¹ Benveniste (1966).

²² Gleick (1987). On semiotic unpredictability see Lotman (2009) and Landowski (2005).

²³ See Greimas (1966) and Eco (1979).

²⁴ Geninasca (1997).

written language, images, and videos, perhaps projected on a screen, which I use in teaching; they involve my gestures, my ways of clothing, and the objects I wear or carry with me; they are tied to the management of the space that surrounds me, with its set of constraints and possibilities; they call into question the appreciation of defined and shared genres and practices (a lesson is not a conference), or even the *image of the audience* that I myself fashioned in order to construct, by means of indexicality, a *structural joint* that transforms me and the audience in a new and higher formation. These are only few of the elements at stake in a very common practice like “to teach a class.” It is worth noting here that there is no difference between such macro-formations as “a culture,” “an encounter between cultures,” and “the generations of culture and cultures through their coming into relation.” Let us make another, more general, example on cultures as “relational ensembles sustained through processes of cultural borrowing, appropriation, and translation—multidirectional processes” (Clifford 2003, p. 34). As Finbarr Flood remarked in regard to the semiotic value of the flows and networks of translations that constituted the premodern Islamic–Indic space across contemporary Iran and India, one needs to ultimately reach beyond the study of isolated written sources. It is necessary to do so in order to situate them within a broader semiotic space, one that is more similar to past actual life and more meaningful for the researcher’s gaze. To grasp the “semiotic potential of materials and materiality”—as Flood refers to it—the researcher should include “coins, frescoes, modes of dress, texts, manuscripts, monumental architecture, and the more abstract but no less revealing realm of onomastics, royal titlature, and ritual practice. (...) [and] at various points agricultural technology, taxation, and military tactics are also relevant to questions of material culture and cultural flows” (Flood 2009, p. 9).²⁵ In other words, we must accept the challenge of looking at the complex ensembles of various semiotic formations, of multiple languages, and of dynamic and plural correlations.²⁶

Hence, on a more specific/analytic level, the concept of formation is connected with the idea that a concrete text, language, or culture—namely a semiotic *substance*—is, on deeper level, a *whole of relations* fashioned in a specific way—that is to say, a *form*. From this point of view, a formation is a *set of positions* with different values and functions.²⁷ Like a sports team, a formation is singular and plural

²⁵ This is how Lotman works in his essays on the so-called “poetics of everyday behavior” (see Lotman 2006). We developed this kind of methodology in the study of Sardinian consciousness and culture, engaging the (co)relation between dance, language and politics (Sedda 2003) or between clashing flags, historical discourse and political identifications (Sedda 2007). For another point of view on (co)relations, a point of view that links semiotics, sociocultural anthropology and linguistic anthropology see Harkness (2011) and Harkness and Chumley (eds.) (2013).

²⁶ According to our point of view, the result of this kind of analytic gaze leads to the individuation/construction of something similar to what Deleuze and Guattari called *semiotic chains*: “A rhizome ceaselessly establishes connections between semiotic chains, organizations of power, and circumstances relative to the arts, sciences, and social struggles. A semiotic chain is like a tuber agglomerating very diverse acts, not only linguistic, but also perceptive, mimetic, gestural, and cognitive (...)” (Deleuze and Guattari 1980, p. 7).

²⁷ Fabbri (1998, p. 19), following Foucault and Deleuze, argued that the object “prison” is a *discursive formation* produced by the socio-historic correlation of a *form of expression* (a specific

at the same time. Here, the different elements are interconnected. On a given level, the elements act as a singular body and are perceived as a singular thing. On another level, however, the different elements can be sub-articulated in parts, which, in turn, may be collectivities (e.g., defense, attack, etc., but also, in a less “organic” composition, players, trainers, fans, owners, etc.) or individualities. To describe a culture as a formation, then, allows us to think about culture as both a whole and a part. It helps us think of *culture as a whole that can be a part, and as a part that can be made of wholes*.

Finally, there is a fourth sense of the word “formation” that is not contemplated in the Oxford Dictionary, but that is clearly consequential to the reasoning we have engaged so far. The idea of formation carries a conflicting meaning. In effect, a formation has a task and a goal, implicitly or explicitly inspired by some authority; it pursues the conjunction with that which structural semiotics calls an “object of value”; it defines itself through this search of the “object of value” and through the overcoming of an antagonistic formation engaged in the same search or in an alternative search.²⁸ More specifically, a formation is always defined in relation with other formations. It acquires meaning through its denial of, its opposition to, or its cooperation with other formations. Hence, a formation, a whole of relations in itself, is in turn defined by its relations of difference and similarity, and, at the same time, by its linking and de-linking, articulation and disarticulation, and with other formations.²⁹ This *agonistic* idea of formations, leads to what we defined as *semipolitics* (Sedda 2012).

31.6 Translation(s)

How do we create, transform, and transmit meaning? By means of translation.

Translation is another key concept in semiotics, a concept that consents to describe the modes of generation of meaning and to link and organize different semiotic schools and thinkers.

articulation of spaces, movements, visibilities) and a *form of content* (a specific articulation of semantic values like “illegality” and “delinquency”, involving specific definitions about “man,” “work,” “freedom,” “danger” and so on). The sociohistoric transformation of one of the two forms (may) cause the transformation of the correlation and then the perception of the “reality” of the prison (or, of the prison as a semiotic reality).

²⁸ Here, we are clearly referring to the elements of Greimasian’s semio-narrative structures, see Greimas (1983).

²⁹ As James Clifford argued: “Articulation is the political connecting and disconnecting, the hooking and unhooking of elements—the sense that any socio-cultural ensemble that presents itself to us as a whole is actually a set of historical connections and disconnections. A set of elements have been combined to make a cultural body, which is also a process of disconnection, through actively sustained antagonisms. Articulations and disarticulations are constant processes in the making and remaking of cultures.” (Clifford 2003, p. 45). On this topic, see also Clifford (1997, 2000).

When we discuss translation, we then refer to different kinds of relations between different semiotic formations. During actual semiosis, these different modes of generating meaning act simultaneously.

The first kind of translation is that which occurs *between signs*. This mode has been identified by Charles S. Peirce and later developed by Umberto Eco in his theory of semiosis as an *encyclopedic net*.³⁰ Peirce argued that “the meaning of a sign is the sign it has to be translated into” (Peirce 1931–1935, 4.132). In a more radical manner, Peirce maintained that there is no true sign or genuine thought—that is, in our words, dynamic and living culture—if this process of translation does not take place:

But a sign is not a sign unless it translates itself into another sign in which it is more fully developed. Thought requires achievement for its own development, and without this development it is nothing. Thought must live and grow in incessant new and higher translations, or it proves itself not to be genuine thought. (Peirce 1931–1935, 5.594)

Finally, in a passage of another of his works, Peirce provides another important definition about meaning and translation. He says that meaning “is, in its primary acceptance, the translation of a sign into another system of signs” (Peirce 1931–1935, 4.127). It is clear that here we are shifting from an *internal translation*, proper of a single system of signs, to an *external translation*, involving two different systems or languages.

The idea of translation as a relation *between languages* has been strongly emphasized by Algirdas J. Greimas, according to whom “signification (...) is the transposition of a plane of language into the other, or of a language into a different language” (Greimas 1970). Here, coherently with the developments of Saussure’s thought, and in particular with Hjelmslev’s,³¹ the idea of a necessary transposition–translation between *semiotic forms* does not merely refer to the relation between natural languages but penetrates the same idea of sign: In fact, according to Hjelmslev and Greimas, what is primary is not the sign in itself but the forms of content and expression from whose encounter sign arises as a “function.” Hence, the sign is created and inhabited, if we may say so, by a process of translation–correlation. On the most general level, the same fundamental relation between signs and “referents” is conceived by Greimas (1970) as a correlation between two languages: The semiotic of “natural language” and the semiotic of “natural world” (or semiotic of common sense).

It is no wonder, then, that Greimas and Courtés (1979) claimed that *translatability* “is the foundation of the same semantic process”. According to these authors, given the fact that meaning is given as evidence and tends to become obvious, automatic, and not significant, we need translation, we need to produce signification through translation, in order to set meaning in motion, to keep it alive, to keep it “meaningful.”

³⁰ See Eco (1984, 1990).

³¹ See Saussure (1922, 2002) and Hjelmslev (1961, 1971).

In a famous essay on translation, Jakobson (1963) reformulated this issue, proposing another differentiation: The differentiation between intra-linguistic translation (e.g., rewording), inter-linguistic translation (e.g., from one natural language to another one), and inter-semiotic translation (from one semiotic system to another; for example, from music to painting, from a novel to a movie, and so on).

These types of differentiation can be useful to develop a general theorization or a typology of translations. Specifically, they remarkably describe translation among already-established semiotic objects. Yet, if we want to move toward a semiotics of cultures sensitive to relations, if we want to remain coherent with a *relationalist* point of view that allows us to face the complexities of actual cultural life,³² we need to carry out a further translation of these ideas about translation. More precisely, we must connect them with the concept of *saisie* (if we may say so, a “seizing of meaning”) developed by the Swiss semiotician Geninasca (1997). For Geninasca, what is important is not the a priori differentiation between a translation occurring within a singular language/semiotic system, or between two languages/semiotic systems. According to this author, what is at stake in the seizing of meaning is the difference between a meaning created through the connection of the “pieces” of *commonsense systems*, which we recognize as “signs” (whatever their size or language may be), and a meaning created through the transformation of deeper nets of representations, which we generally associate with “texts.” The first logic is called the logic of sign deferral; the second logic is called the *logic of meaningful ensembles*. What we must specify here is that the two levels and the two modes of translation operate simultaneously as *integral with* and as *independent from* one another. This means that there cannot be a sign that does not carry a semantic value and that is not part of a system of semantic relations. Moreover, this also means that any semantic system is seizable only through the presence of some concrete sign. Furthermore, this leads to the consideration of the possibility that the two forms of translation can be simultaneously at play and that their force can join together, move sense in a common direction, or push meaning in two different directions.

The two logics put different kinds of objects in relation. Furthermore, they also define their effectiveness according to different parameters: On the one hand, translation between signs and objects (iconic entities, concepts) involves the *recognition* of an *adequacy* of the used signs with a given reality (that is to say, the real as formed by a culture and deposited in a commonsense knowledge); on the other hand, translation between structures and values (categorical structures, schemes of action–passion) involves different *forms of rationality* related to different kinds of *Discourse*.³³ This entails implications for various important issues. Here, we briefly

³² In this sense, as Gentzler and contemporary scholars in translation studies recently pointed out, translation is “less something that happens between separate and distinct cultures and more something that is *constitutive* of those cultures (...) translation is an always primary, primordial, and proactive process” (Gentzler 2012).

³³ The idea of *Discourse* in Geninasca, even though in a less explicit way, is similar to the one of *episteme* developed by Foucault (1968). Yet according to Geninasca (1997), there is not only one episteme dominating over an epoch or a text but also always different discourses in dialogic–polemic relation.

highlight only two of these: The relation between *continuity and discontinuity*, and the relation between *identity and equivalence*.

In reference to continuity and discontinuity, on the one hand, we mean the capacity that translations have to create continuity where there is discontinuity and homogeneity where there is heterogeneity. At first, the generation of continuity allows to effectively connect³⁴ different semiotic formations. We then create the possibility to move between seemingly incommensurable fragments of semiotic reality. Yet as we tie these fragments together, we also create the reality we imagine we are referring to. In addition, the production of continuity relates to the issue of power: In one sense, it seems a way to overthrow the established semiotic hierarchies, but more often it allows the erasure or the concealment of the instances of power involved in the construction of meaning. Therefore, translation as construction of continuity is generally related to the production of *effects of reality* and of *effects of consensus*. Here, signs appear as a reflection of nature “as it is” or of things “as they are,” culture emerges as an unfinished series of connections, and the world as a flat and nonhierarchical space.

On the other hand, translation may reveal discontinuity where, on a first glance, only continuity appears. In this instance, translation generates heterogeneity where we perceive homogeneity, and creates or underlines difference where we expect repetition. This kind of dynamic becomes clear when we consider how a single sign becomes the arena for contesting and alternative discourses, even within a specific language or culture. When we struggle for the definition of (apparently common) things such as “life,” “freedom,” “democracy,” and when we try to articulate them within a specific discourse or through a specific practice, we discover that, potentially, every semiotic formation—even the simplest sign—is inhabited and shaped, shaken, and ruptured, by contested and conflicting translations.

The second issue we want to single out before closing this brief exposition of the basic concepts of the semiotics of culture(s) touches upon identity and equivalence. At the outset, we must remember that one of the most important and general definitions of translation is that translation is the search for “dynamic equivalences” between texts, languages, and cultures.³⁵ The result of this search generally leads to the definition of a series of such “conventional equivalences”³⁶ as those that we find in a bilingual dictionary. Now, even though we may take the equivalences of a bilingual dictionary for granted, we know they are the provisional result of an ongoing cultural process that reveals itself as open every time we face a concrete translation. And that is because every translation is never a simple, mechanical substitution of a word with a word from another language. There is no need to mention the hardships of translating poetry, when it is not only sufficient to translate the content of the source text but also fundamental to attempt to recreate the correlations between the *form of the content* and the *form of the expression* of the source into the target

³⁴ On semiotic efficacy, see Pezzini (ed.) (2001).

³⁵ See for example Nida (1964) and Clifford (1982). For a semiotic collection of points of view on this issue, see Nergaard (ed.) (1995).

³⁶ Lotman (2005).

text and culture, only to realize that all translations are always *imperfect translations*. When we talk about *imperfect translations*,³⁷ we are also saying that each translation, even the apparently most successful, produces an *equivalence without identity*.³⁸

Still, when we talk about *imperfect translations* we also intend to draw attention on a less contemplated dynamic, that is, the dynamic of an *identity without equivalence*. The easier and faster way to describe this dynamic is to return the basic meanings of “translation.” The idea of moving something from one place to another. Now, this movement transforms what is being moved. And even if on one level what is translated always appears as *the same object*; on a deeper level, it changes itself until it reaches the point of becoming *another thing*.

Hence a *cow*—“the very same cow”—is not the same and has not the same value when it is translated from a (sociocultural) formation that regards it as “sacred” (nontouchable and nonedible) to a domain where it is regarded as “profane” (and so touchable and edible). Similarly, if we think about it, a *hamburger* does not mean the same thing when a family member eats it in a restaurant, and when the president of the USA eats it on an official dinner. Again, *man* is not the same in a (sociocultural) formation like the scientific discourse of evolutionism and within the formations developed by the religious discourse of creationism. And finally, an *individual* does not have the same value in a democratic or in totalitarian formation (where it may not even semiotically exist), so as *culture* (or *nature*) is not the same thing in different discursive formations, such as anthropology, philosophy, or physics.

As we have seen, iconic or conceptual objects change their value and status according to their position within broader nets of semantic relations deposited in different semiotic formations—books or rituals, advertising or institutions, knowledge or cultures. The only purpose of these simple (and simplified) examples is to remind us how broad are the ranges and how deep are the effects of translation on the constitution of our world(s).

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³⁷ Sedda (2006, 2012).

³⁸ Ricoeur (2005).

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Franciscu Sedda is a research professor of semiotics at “Tor Vergata” University of Rome. He has occupied the position of vice president in the Italian Association of Semiotic Studies (2007–2009). His main fields of research are semiotics of cultures, the development of a general semiotic theory and a theory of globalization, the study of global cities, the history of Sardinian culture and con-

sciousness. He is the creator and chief organizer of the *Úize Festival* (Carloforte, Sardinia), an international event dedicated to the study of island cultures. He is currently engaging in cooperation projects with various public and private universities in Brazil. In particular, he has been a visiting professor of semiotics at Pontifícia Universidade Católica de São Paulo (September 2008; November–December 2009) where he taught “general semiotics and semiotics of culture”, “semiotics of culture and semiotics of urban space.”

Chapter 32

Signs, Language, and Life: Pathways and Perspectives in Augusto Ponzio's Scientific Research

Susan Petrilli

32.1 Between Philosophy of Language and Semiotics

Augusto Ponzio (San Pietro Vernotico, Brindisi, Italy, 17th February 1942) has dedicated most of his academic life to the sign and language sciences producing a quantity of publications not easily equaled, as a glance at his complete bibliography will reveal. In terms of monographs alone, Ponzio has over a hundred volumes to his name. At the turn of the last century, during a session at one of the annual summer conference series held at the Centro Internazionale di Linguistica and Semiotica, University of Urbino, Pino Paioni, longtime President of the Centro and organizer of a very long and important series of prestigious international conferences counting the participation of key figures in the sign sciences including Roland Barthes, Roman Jakobson, Umberto Eco, Julia Kristeva, Ferruccio Rossi-Landi and many more, commented that “Augusto Ponzio’s productiveness is unprecedented, comparable perhaps only to Diderot for the vastness of his interests, for the quantity of his publications, for flexibility in terms of discourse genres, and for the open and dialogic nature of his approach generally.”

Augusto Ponzio is a pivotal figure on the contemporary scene of studies in semiotics and philosophy of language which are closely interconnected and cannot be separated as his work clearly illustrates. The expression “philosophy of language” conveys the scope and orientation of his research: Ponzio addresses problems relevant to semiotics from the perspective of philosophy of language, updated with references to latest developments in the sign sciences, from linguistics to biosemiotics. As such, his approach is more properly described as pertaining to general semiotics. Nonetheless, Ponzio practices general semiotics in terms of critique and the search for foundations, which derives from his work in philosophy of language. As the critique of semiotics, Ponzio’s general semiotics overcomes the artificial separation between the humanities, on the one hand, and the logico-mathematical

S. Petrilli (✉)

The University of Bari “Aldo Moro”, Bari, Italy
e-mail: susan.petrilli@gmail.com

and the natural sciences, on the other. His semiotic research relates to different disciplines according to an approach best described in terms of interdisciplinarity, but in Ponzio's case "undisciplinarity" is more to the point. As conceived by Ponzio, general semiotics continues its philosophical search for sense, just as with respect to the search for sense he continues the phenomenological approach in his original formation as oriented by the teachings of one of his main guides, Giuseppe Semerari (Ponzio et al. 2007). In both cases, in fact, it is not only a question of evidencing the condition of interconnectivity among the sciences but also their sense for man understood as that singular subject that is each one of us. This is in line with Edmund Husserl's research and of his continuators such as Emmanuel Levinas and Maurice Merleau-Ponty. Ponzio's search for the sense for man of scientific research in general and of the general science of signs in particular is oriented by the Husserlian distinction between "exact science" and "rigorous science." Developing this particular trend in our research together, we have arrived at the formulation of the concepts of "ethosemiotics," "telo-" or "teleosemiotics" and now "semioethics" (Ponzio and Petrilli 2007, 2010; Petrilli and Ponzio 2014).

His interpretation of "semiotics" in terms of "semioethics" passes through the concept of "semeiotics." Influenced in particular by his personal encounters with Thomas Sebeok and also by his readings of texts by Mikhail Bakhtin, Ponzio focuses on the relation between life and communication, sign and value (Ponzio and Petrilli 2001, 2002, 2010). With Sebeok, he identifies the genesis of semiotics in medical semeiotics or symptomatology which places semiotics (the general science of signs) in a tradition that leads from Hippocrates to Galen. This is not a mere question of agnition, but of knowledge about the origins (see Sebeok et al. 2001). For Ponzio to relate semiotics to the medical sciences, that is, to the study of symptoms, also means to recover the ethical instance of semiotic studies. In other words, it means to recover the ancient vocation of "semeiotics" for the health of life, an immediate concern for the sign sciences given that semiosis and life, as Sebeok claims—life globally over the entire planet Earth—converge. In any case, "semioethics" is not intended as a discipline in its own right, but rather as a perspective and orientation in the study of signs (see Ponzio and Petrilli 2001, 2002; Petrilli and Ponzio 2014). The ethical instance of Ponzio's approach to semiotics was originally developed in relation to the university courses he began teaching in 1966 in moral philosophy, and since then interruptedly after becoming professor of philosophy of language in 1970, and full professor in 1980.

"Philosophy of language" as understood by Ponzio implies language as the subject, language that philosophizes and not just language as the object of philosophy. Even when research in the language sciences is oriented monologically and regulated by the centripetal and unifying forces of linguistic life, the original capacity for philosophizing immanent in language, its constitutional dialogic heteroglossia (as much as it may be deformed, misrepresented, and distorted) betrays itself and surfaces despite efforts to the contrary. Without this original capacity, it would not be possible to objectify language or develop philosophical and linguistic disciplines to study language.

Neither philosophy of language nor philosophy in general—which cannot be separated from philosophy of language just as philosophy of language cannot be separated from general semiotics—neither can ignore the phenomenon of dialogic heteroglossia, or rather to do so would be on pain of their failure. In fact, dialogic heteroglossia constitutes a sort of a priori and transcendental condition for philosophical reflection as for all forms of critical consciousness. Ponzio maintains that philosophy as a profession, as an institution should be regenerated in terms of the art of listening. Listening here concerns philosophy proper to language, to the live word. Language is oriented in the direction of dialogic heteroglossia, plurilingualism, of the dialogic correlation between historical-natural languages and the internal languages they each consist of. In this sense, “of language” in the expression “philosophy of language” resounds in the sense of the subject genitive: language philosophizes, therefore, philosophy as an orientation, ultimately a capacity for dialogized pluridiscursivity intrinsic to language.

This capacity for dialogism and internal plurilingualism, for pluridiscursivity acquires the status of methodology for the philosophy of language as a discipline as much as for the sciences of language generally. In other words, with Ponzio’s research, dialogized pluridiscursivity emerges as a method for the study of language and as a criterion for the definition of philosophy in terms of language. From this point of view, Ponzio’s posits dialogic plurilingualism as an a priori and transcendental condition for philosophical reflection and science generally and not only when focused on language, as a condition for all forms of critical awareness. (Specifically on Augusto Ponzio research and writings, see the collective volumes on his work edited by S. Petrilli (2004, 2007a, 2008a, 2013a); see also Calefato and Petrilli (2003).

32.2 Critical Linguistic Theory, Dialogism, and Interpretation

As a theorizer of dialogism, a concept he has particularly developed reading together Mikhail Bakhtin and Charles S. Peirce, Ponzio maintains that the word is dialogic in the sense that it is inevitably involved with the word of the other. This is also a consequence of the dialogic nature of signs, as he demonstrates in his lesson series titled, *The Dialogic Nature of the Sign* (commissioned by Paul Bouissac for his courses at the Semiotics Institute Online, and published in book form with Legas, 2006). As described by Ponzio, dialogue is not something we choose; on the contrary, we suffer dialogue, we are subject to dialogue. Dialogue is not the result of an open attitude toward the other, of a kind or diplomatic concession to the other. On the contrary, dialogue implies that it is impossible to close to the other. Dialogue is connected to the body. The word is voice, the embodied voice. Dialogue is not possible among disincarnated minds. The illusion of autonomy among words is the illusion of autonomy among individual bodies. Dialogue excludes all forms of homologation between self and other, all forms of equalization that ignore

their singularity, all forms of synthesis. The dialogic relationship is asymmetrical, irreversible. The living dynamic reality of language cannot be grasped through the categories of official linguistics which, instead, abstract from the internal dialogism of the concretely oriented and specifically intoned word, that is, from the word's valuative, pragmatic, and ideological orientation (see Ponzio 2011).

Ponzio demonstrates the inadequacy of trends in language and sign studies which reductively analyze the (verbal and nonverbal) sign in terms of equal exchange value, separated from the historico-social relations implied in the processes that produce them. With reference to a wide range of human sciences—philosophy, semiotics, linguistics, philosophy of language, political economy, anthropology, esthetic creation, and literature—Ponzio like Bakhtin explores the boundaries where these sciences interact and contaminate each other, the boundaries of discourse.

We may claim that logic, dialogic, and ideologic (three concepts evoked in the title of an issue of *Semiotica* and before that of an International Colloquium in semiotics organized at the University of Bari) indicate a triple dimension in the life of signs as evidenced by the natural sciences and the human sciences, assumed as irrevocable by general semiotics. Logic, dialogue, and modeling of the world through signs also involve the human sign capacity for excess with respect to functionality. Excess frees signs from necessity and opens to desire, inventiveness, creativity, to nonfunctional planning in light of which man emerges as an end in himself, as a value that cannot be reduced to the status of means or instrument. Ponzio has dedicated numerous of essays to the problem of the relation between formal logic and dialectic logic and to the relation between dialectics and semiotics. Some of these papers are now available in the volume *Semiotica e dialettica*, 2004a. From this point of view, a major editorial enterprise is also Ponzio's translation from Latin into Italian of the classical volume *Summule logicales* by Petrus Hispanus, with which he produced a bilingual critical edition, published in 2003 (new revised edition 2010).

Ponzio's research itinerary concerning ideology begins from his book of 1970 (new enlarged edition 2005), *Linguaggio e relazioni sociali*. In his 1973 monograph *Produzione linguistica e ideologia sociale* (reviewed and enlarged for a French edition published in 1992, and again for a Brazilian edition of 2012), he promptly took a critical stance with respect to Noam Chomsky's approach to language analysis. Some aspects of this study were subsequently developed in a volume of 1991, *Filosofia del linguaggio 2*. In 1973, Ponzio's attitude meant to critique dominant trends in the linguistic sciences given Chomsky's widespread influence over the intellectual globe. Ponzio's main contention is that Chomsky mistakes linguistic use in a specific language, English (he claims that his sentence examples are often untranslatable in other languages), for the essential or universal in language-in-general. Furthermore, according to Ponzio, Chomsky confuses different levels of analysis, mistaking the level of description of the objects analyzed for the level of construction of the models of analysis. Ponzio's critique is in line with Sebastian K. Shumjan's research and his bigradual theory of generative grammar, articulated at two levels, precisely (the genotypical and the phenotypical) by contrast to what he describes as Chomsky's unigradual linguistic theory. But most strange of all in

Chomsky's writings is that he never asks the question, how come many languages?, how come Babel?, if, as he maintains, there exists an innate universal grammar for all languages.

In Ponzio's opinion, what Chomsky calls "linguistic creativity" in reality refers to a situation characterized by the use of rules, codes, and programs that are out of the speaker's control. Such a situation not only involves the phonologic, syntactic, and semantic levels of language but also the ideological. Chomsky the linguist deals marginally, if at all, with the question of ideology. Instead, Chomsky the critic of American politics does not fail to deal with ideology, but does so separately from his professionalism as a linguist. According to Ponzio, there exist two Noams that do not speak to each other.

With the categories of "competence" and "performance," Chomsky repropose traditional problems, terminologies, and mechanistic oppositions—consciousness versus experience, behaviorism versus mentalism, physical versus psychic, internal versus external, empiricism versus rationalism—as though authors like Kant, Husserl, Peirce, Merleau-Ponty have never existed. Referring above all to Kant, Rossi-Landi in an early monograph of 1961, *Significato, comunicazione, e parlare comune*, had already formulated his "methodics of common speech," which in his 1968 monograph, *Language as Work and Trade* (English trans. 1983), he developed in terms of his "methodics of linguistic work," which subsequently led into his "methodics of common semiosis." A central category for Ponzio in his critique of Chomsky is "linguistic work" which he develops from Rossi-Landi's 1968 monograph. Rossi-Landi ideates the concept of "linguistic work" by relating different human sciences, political economy and linguistics, specifically identifying a homological relationship between sign production and the production of artifacts. Following Rossi-Landi and dialectic materialism, Ponzio calls attention to the dialectic relation between the subject and the social and natural environment, to language conceived as work and to the different languages viewed as the product of work, as the result of linguistic production processes (see Rossi-Landi 1975b, 1978, 1985, 1992; Ponzio 2008).

To be functional, a linguistic theory must be explicative and critical, well beyond the limits of a descriptive and taxonomic approach to language analysis. Such an approach must account for the social processes of linguistic production in relation to a critical theory of ideology. Applying categories from Bakhtin, Voloshinov, Marx, Schaff, and Rossi-Landi, including "language as work" and "language as historico-socio-ideological reality," Ponzio criticizes the tendency to reduce "linguistic use" to "behavior" or "activity," and evidences the human potential for creative (abductive) and critical intervention on language as much as on one's surroundings at large.

With specific reference to works by Ferruccio Rossi-Landi, Ponzio discusses such concepts as "linguistic work," "linguistic value," "linguistic market," and "linguistic capital." Rossi-Landi arrived at the concept of "linguistic work" by establishing a connection between material production and linguistic production and between linguistics and economics (*Linguistics and Economics* is the title of his pioneering monograph of 1975a), and did so at a time when such an opera-

tion seemed eccentric, or, to say the least, simply metaphorical. What Rossi-Landi called “linguistic work” is what today is recognized as “immaterial work,” an effective resource and source of profit. Rossi-Landi evidenced the homological relation between “linguistic production” and “material production” at a time in the development of capitalism when the role of “immaterial resources,” therefore of signs, languages, and communication in productive processes was not yet as obvious as it is today. Thanks to progress in scientific research, especially with the development of artificial intelligence applied to electronic devices, material production, and linguistic production now prove to be undeniably united, after having been considered separate, delusorily, ‘til relatively recent times, in the form of “manual work” and “intellectual work.” To Rossi-Landi, in addition to numerous essays, Ponzio has dedicated two full monographs titled *Ferruccio Rossi-Landi e la filosofia del linguaggio* (1988), and *Linguaggio, lavoro, e mercato globale. Rileggendo Rossi-Landi* (2008).

Ponzio returns to the problem of the development of linguistic competence and knowledge generally, what Chomsky in 1985 baptized as “Plato’s problem,” in his monographs, *Il linguaggio e le lingue*, 2003, and *Linguistica generale, scrittura letteraria and traduzione*, 2004b. The expression “Plato’s problem” refers to how a finite number of elements generate knowledge which transcends any limits both qualitatively and quantitatively. The problem of ideology is not only strictly connected to language theory but also to logic and knowledge theory. According to Ponzio’s description and contrary to Chomskyan dualism between experience and competence, experience in modern conceptions after Kant is described in terms of interpretive operations, including inferential processes of the abductive type (Charles S. Peirce). Through such operations, the subject completes, organizes, and associates data which is always more or less fragmentary, partial, and discrete. Experience viewed in terms of interpretation is innovative and qualitatively superior by comparison with the limited nature of eventual input. Thus described, experience converges with competence which no longer calls for an innate supplement, a piece of natural equipment inherent in the human infant.

On the basis of the connection between language acquisition and the performance of inferential-abductive operations, the relation between abduction and language learning (which is never final) is one of mutual support: language learning resorts to abductive processes, while abductive processes in turn are enhanced through language learning. In fact, inferential processes are necessarily grounded in interpretive linguistic work accomplished by the generations that have preceded us historically, that hand down the linguistic materials and instruments forming the language we experience.

For a linguistic theory that transcends the dualism of such binary oppositions as competence and experience, deep structure and surface structure, Ponzio draws on Peirce and his sign theory. Critical of the Chomskyan conception of deep structures, he proposes an “interpretive linguistic theory.” In this light the theory of different levels, of antecedents and derivations, deep structures and surface structures no longer holds. The “interpretive linguistic theory” (relative to both verbal and nonverbal signs) explains the ability to understand an utterance (or verbal sign in

general) in terms of its relation to another utterance that interprets it, acting as an interpretant in Peirce's sense. All utterances are produced, characterized, identified, and developed by their interpretants. According to this approach, the interpretant of an utterance is not a deep structure, but rather another verbal sign. An interpretant identifying an utterance or any verbal sign whatever is simply "unexpressed" until the conditions are realized for its expression and explication.

In relation to interpretants, a distinction can be drawn between the "identification interpretant" and a "responsive understanding interpretant." The first has the function of recognizing the sign at the level of phonemic or graphic configuration, semantic content, morphological syntactical structure. The second is focused on the pragmatic dimension of signs. Viewed in such terms (and this is a particularly significant aspect in Ponzio's approach), the relationship between "interpretant signs" and "interpreted signs" is characterized by dialogism, active participation, and otherness. This level of sign interpretation is closely related to the ideological level of discourse.

Ponzio's work in the perspective described coherently continues the transition from so-called decodification semiotics to interpretation semiotics as it began taking place in Italy in the early 1970s (cf. his pioneer book *La semiotica in Italia*, 1976). The sign model proposed by so-called interpretation semiotics is the heterogeneous product of dialogically related results reached in different contexts: theory of knowledge (Peirce), theory of literature (Bakhtin), and axiology (Morris). Concerning the latter, Ponzio's research on the relation of semiotics to ideology (Rossi-Landi, Schaff) led to a stronger focus during the 1980s on the relation between signs and social values. In this connection, Charles Morris had already made an important contribution with his theory of the relation between signs and values in *Signification and Significance*, 1964. By contrast with a view of semiotics considered in cognitive, descriptive, and ideologically neutral terms, a major trend in present day semiotics aims at recovering the axiological dimension of semiosis for a global reconnaissance of man and his signs.

The Peircean–Morrisian sign model at the basis of interpretation semiotics is a dynamic sign model, rooted in the concept of infinite semiosis, or open chain of deferrals from one interpretant sign to another. The supporting logic is not that of equal exchange, but rather the logic of non-correspondence, excess and otherness in the relation among interpretants forming the sign network. The interpretant sign says something more with respect to the interpreted sign which is also endowed with its own semiotic materiality. By virtue of its semiotic materiality, the interpreted sign resists any single interpretation, or "interpretive route" in Ponzio's terminology. In other words, the meaning of the interpreted sign is not exhausted in any single interpretant sign or interpretive route. In the framework of interpretation semiotics, the sign is always part of a sign situation in which all the components of semiosis—the sign vehicle (*signifiant*), meaning (*signifié*), referent, interpreter, interpretant, and codes regulating sign systems—are considered as different inter-related aspects of complex and articulate semiotic processes.

Logical inference, the dialogical dimension of semiosis and the critique of ideology inevitably call for analysis in a semiotic key. Analysis with any claim to

adequacy begins by recognizing the sign nature of such phenomena. The different functions of the sign should be analyzed. However, a description of signs limited to functionality will not suffice to account for the constitutively innovative, inventive, and creative dimension of inferential processes, dialogue, and ideology: the life of signs foresees a broad margin of nonfunctionality.

32.3 Reinterpreting the Notions of “Triadism,” “Dialectics,” and “Automatism”

By contrast with the image of the rhizome as perspected by Gilles Deleuze and Felix Guattari (1976), which despite their critique of binary logic is still dichotomous, Augusto Ponzio thematizes a triadic automatism, the automatism of “thirdness” (Peirce), the automatism of opening towards the other, agapastic automatism, the automatism of creative abduction.

Psychoanalysis, structural linguistics (including Chomsky’s transformational generative grammar), the human sciences modeled on linguistics (structural anthropology, etc.), mathematical information theory all tend to follow binary logic, that is, the closed logic of biunivocal relations. Not only: binary logic regulates dominant ideology and therefore social reality subject to the latter. Dominant ideology can be described in terms of automata endowed with a capacity for self-regulation and self-production, for regulation and reproduction of other automatisms which depend on the former and at once support it.

The condition for the realization of extended and open totalities, which is the condition for social change, is that totalities made of biunivocal relations be detotalized according to the logic of dialogism and otherness, including the closed totalities forming today’s social reproduction circuits.

The scope of semiotic enquiry today transcends the opposition between the Saussurean/Hjelmslevian/Greimasian approach and the Peircean approach, a pair considered as converging with *binarism* and *triadism*, respectively. But, as observed by Augusto Ponzio, the central issue is not the alternative between binarism and triadism, but that between *monologism* and *polylogism* (Ponzio and Petrilli 2002 pp. 263–264; Ponzio 2007, pp. 34–35). In other words, the limit of the sign model proposed by the semiology of Saussurean matrix is not determined by binarism, but by the fact that binarism finds expression in the concept of equal exchange logic between signifier and signified and in the reduction of complex sign life to the dichotomous paradigm formed by code and message.

The significant opposition is that between a sign model which tends to oversimplification with respect to the complex process of semiosis and a sign model (like that proposed by Peirce) which does justice to the different aspects of the process according to which something becomes a sign. Validity of the latter is not given by an empty triadic form, but depends on the specific contents constituting Peirce’s triadism, that is, the categories forming his triadism, his sign typologies, and on the dynamic nature of his model which describes signs as grounded in *renvoi* from

one interpretant to another. These categories include “firstness,” “secondness,” and “thirdness,” the triad “representamen,” “interpretant,” and “object,” “symbolicity,” “indexicality,” and “iconicity.” All such factors support a conception of semiosis where *otherness* and *dialogism* are decisive.

In line with the Peircean and Bakhtinian conceptions of sign, Ponzio also places the sign and signifying processes in the context of dialogic relations. As part of an interpretive route in a sign network, meaning is clearly delineated and at once susceptible to continuous variation and amplification through dialogic interconnections with other interpretive routes. This original thematization of meaning contributes to a better understanding of such concepts as signifying instability, plurivocality, internal plurilingualism, dialogism, semiotic materiality, signifying otherness, and autonomy of the sign which resists the interpretive will even of the subject who produces it (Petrilli 2010, pp. 137–158). The dialogic relation develops at various levels including in the relation between sign and interpretant, between premises and conclusion in argumentation, between verbal and nonverbal interpretants forming a single interpretive route, or among interpretants forming different interpretive routes.

The Peircean–Morrisian sign model referred to by so-called interpretation semiotics is a dynamic sign model grounded in the logic of infinite semiosis and deferral from one interpretant to another. Contrary to sign models based on equal exchange logic, this model is subtended by the logic of non-correspondence, excess and otherness in the relation among interpretants forming the sign network. The interpretant says something more in regards to the interpreted which in turn is endowed with its own semiotic consistency which resists and is never exhausted in any one “interpretive route,” in a single interpretation (Ponzio 1990, pp. 17–32). In the framework of interpretation semiotics the sign is always part of a sign situation in which all components of semiosis—the sign vehicle (*signifiant*), meaning (*signifié*), referent, interpreter, interpretant and codes regulating sign systems—are considered as different interrelated aspects of complex and articulate semiotic processes, and not separately from one another.

Peircean logic is dialogic and polylogic though the merit is not in the triadic formula in itself. Hegelian dialectic abstracts triadism from the constitutive dialogism of sign life, giving rise to a form of dialectic that is unilinear and monological. In his 1970–71 notebooks, Bakhtin analyzes the formation processes of Hegelian monologic dialectic, showing how it originates from the live context of dialogic semiosis. The process consists in taking out the voices (division of voices) from dialogue, eliminating any (personal/emotional) intonations, thereby transforming live words and dialogic relations into abstract concepts and judgments so that dialectic is obtained in the form of a single abstract consciousness. Peirce himself took a stand against the systemic skeleton of Hegelian analysis, against dialectic understood as a kind of hypochondriac search for the conclusion, unilaterally oriented towards a synthesis instead of being open and contradictory (on the relation between dialogue and dialectic in Peirce and Bakhtin, see Ponzio [1986, 2006]).

In the framework of interpretation semiotics and with special reference to studies in psychoanalysis by Sigmund Freud and together on the sign by Peirce, Ponzio

analyzes memory in terms of interpretation and construction processes. In particular, he focuses on the problem of continuity and on the relation between continuity and memory. With Peirce, he draws attention to the signifying materiality of the percept which “cannot be dismissed at will, even from memory” (CP 4.541). Nonetheless, that the percept resists does not make it a fact, an entity in itself, fixed and defined once and for all because the percept is a sign, therefore an interpreted for an interpretant, in turn a sign and therefore an interpreted for another interpretant. What gives itself in perception and in memory gives itself as an interpreted, not for a subject that is given outside the interpretation process, but for a subject that is itself a sign in turn, inserted in the chain of interpreted–interpretants. Memory may be understood as the continuous chain of interpretant–interpreted relations that constitute a subject’s story which is an open story, that is, open to continuous reinterpretation according to different interpretive trajectories.

At the basis of interpretation in analytical practice is the recognition of the need for distancing between interpretant and interpreted, for a relation of dialogic externalization achieved by relating to an outsider, in this case the psychoanalyst. By transforming “facts” to be reconstructed and “loss of memory” into signs, that is, into interpreted–interpretant relations, Peirce’s semiotics frees interpretation from positivist residues still traceable in Freudian psychoanalysis. From this perspective, the analytical work of deconstruction and construction cannot be separated from the dialogic interpreted–interpretant relationship impersonated by two signs as distant and different as possible from each other, in a disymmetric relation that obstructs elimination of reciprocal otherness as, instead, occurs in relations regulated by equal exchange logic between *signifiant* and *signifié*.

In “Konstruktionen in der Analyse” Freud distinguishes between “interpretation” and “construction” in terms of extension: interpretation refers to a single element such as a sudden idea, a lapsus or misperformance; instead construction involves elaborating a whole piece of a story forgotten by the person under analysis. However, Freud conceives construction in terms of re-construction, similarly to the work of the archeologist or philologist. But analytical construction, according to Ponzio, should not be conceived in terms of restitution, of returning the preexistent, whether a building or a text. Instead, construction means to establish a relation of dialogic otherness as a condition for interpretation where the relation between interpretant and interpreted does not present itself in terms of duplication, paraphrase, or faithful translation, but rather of critical reading, innovative elaboration, and responsive understanding (Ponzio 1990, pp. 48–50).

The thought–sign relation is continuously broken down into the relation between an interpreted sign object of interpretation and the interpreting sign or interpretant that interprets the preceding sign. This relation is open to the other, to the outside, to inferential processes that cannot be reduced to logical relations with previous experience. In this context, memory is associated with otherness in the double sense of otherness constitutive of the self’s identity and otherness of the other from self. In other words, the other is not only the biological and biographical other external to self, the other from self but also the other constitutive of identity, the other self, the other of self. Consequently, memory is not only a question of reconstructing

texts that have already been written, experiences that have already been lived but also of writing and constructing new texts, of living new experiences. Analytical interpretation is possible, thanks to the construction of a relation of otherness which interrupts the univocality of sense and deconstructs the compact identity of self. From this point of view, the otherness relation is open to the “passion of signs” as understood by Julia Kristeva (1983).

A critical and dialectic approach to the problem of subjectivity and its signs evidences the continuous sacrifice of otherness on the alter of identity and aims, instead, to recover sense in the direction of otherness and extralocality. Following Bakhtin, Ponzio theorizes the “detotalizing method,” evasion from the limits of identity, fragmentation of false but concrete totalities (for example, Ontology, Politics, Equal Exchange, Individual, Society, State, Nation, Western World, Europe, Orient, Language, Truth, Knowledge, Equality, Justice, Freedom, limited Responsibility, Need). He critiques totalizing closure and thematizes a situation of detotalized totalities, that is, of smaller interconnected totalities that interact with each other dialogically in a global and detotalized sign network. The present day social reproduction system is regulated by the logic of identity which means to say it is founded on segregation, even elimination of the other. This system is based on concrete abstractions, including the concrete abstraction “Individual” forced to sacrifice otherness in the name of identity. A critique of this system presupposes *the point of view of otherness, absolute otherness and not just the relative otherness of biunivocal relations of binary oppositional logic*. The critique of identity presupposes recognition of the other, that is, recognition of the fact that the other cannot be ignored or eliminated (see Ponzio 2014).

The condition of “outsiderness,” “extralocalization,” “exotopy” (Bakhtin), of absolute otherness (Levinas), “intransivity” (Barthes) best describes the properly human free from the constraints of closed identity. This condition is manifest in literary discourse where the degree of extralocalization, distance, and otherness constitutes the measure of literary value and characterizes different literary genres. This does not mean to subscribe to the theory of “art for art’s sake,” which Levinas describes as false and immoral given that it places art outside reality and unburdens the artist of all responsibility. The freedom of absolute otherness involves absolute answerability, a condition of responsivity without barriers, of responsibility without alibis.

In his early 1919 essay, “Art and Answerability,” Bakhtin had already insisted on the intimate interrelation between art and life, art and otherness, art and unlimited responsibility unrestricted by contracts or official roles (Bakhtin 1990, pp. 1–3). In this framework, the subject is understood in terms of plurality, fragmentation, dialogism, absolute otherness, and unlimited answerability as opposed to the integral subject of traditional philosophy and to the associated conception of meaning understood in terms of coherence and unilinear development, as preestablished and monologic meaning. Contrary to the blind responsibility of a single point of view, the voice of authority, the stability of a compact word, the reassurance of identity, of static systems and codes, Ponzio too describes the properly human in terms of answerability/responsibility towards the other, and of the capacity for dialogism,

listening, and otherness. The subject relates to the other in the open spaces of the “great time” (Bakhtin). Freedom cannot evade the relation with the other, exposition to the other, responsibility for the other. The properly human involves responsibility without alibis towards the other (cf. Levinas 1972, p. 98).

The metaphor of automatism in relation to subjectivity is mostly considered in the negative sense of the mechanical. It embraces apparently contradictory concepts such as necessity, on the one hand, and spontaneity, chance, and autonomy with respect to external constriction, on the other. Ponzio develops such contradictions in dialectical terms and proposes what would seem to be another paradox: automatism as the process through which human action becomes autonomous. Insofar as it combines the programmed and the spontaneous, necessity and chance, the natural and the artifact, the automaton characterizes human subjectivity more than the machine. As autonomous determinism, automatism is free from external conditioning. Automatism opens to the unconscious: the automatism of thoughtlessness, forgetfulness, of the Freudian slip, the automatism of dreams, desires, passions.

What seem to be separate automatisms are in reality dialectically related to each other. This is even more obvious when we break down or “detotalize” the larger categories commonly used to analyze human beings and their behavior: individual subject, society, culture, class, *langue* and *parole*. On closer examination, it becomes clear that these categories are built on a series of automatons in a system of ever-changing relations so that what seems programmed, automatic from a given point of view in fact results self-propelled and spontaneous from another (Barthes 1978; Rossi-Landi 1972). Ponzio explores the possibility of constructing open automatons capable of responding to external stimuli, therefore of modification and reorganization in response to the other, capable, capable of heterogeneity of heterogeneity with respect to the pseudo-automaton totality. He connects this constructive interpretation of human automatism to Antonio Gramsci and his interpretation which is just as positive. Gramsci analyzes the relation between freedom and automatism and claims that automatism does not clash with freedom but with the arbitrary. Automatism is freedom of the group and contradicts arbitrary will which is individualistic. If the arbitrary is generalized, it is no longer arbitrary, but a shift in the direction of “automatism,” new rationality. Automatism is rationality stripped of any speculative aura (Gramsci 1975/1932–35).

The limit of approaches that conceive the automaton as a self-sufficient and separate entity clearly emerge in the light of Charles Peirce’s triadic categories of tychism (chance), agapism (love understood in terms of the otherness relationship), and anachism (necessity) associated to his interpretation theory and most renown sign triad, index, icon, and symbol. In reality, the automaton is open to relations with larger automatic entities, to mechanisms and programs it does not control. As sign reality, the interpretive practices regulating automata are not only regulated by necessity (index) or chance (symbol), therefore by the inferential practices of deduction and induction, which account for repetition and predictability, but also by the automatisms of free association, similarity and analogy (icon), therefore by inferences of the abductive type which account for the creative, inventive, and unpredictable aspects of signifying processes.

32.4 Literary Writing and the Critique of Language, Communication, and Social Programs

Many of Ponzio's books are dedicated to literary writing, ultimately to get a better understanding of language through the viewpoint of literature. Ponzio thematizes the viewpoint of literature as a general methodological principle. Literary writing is not only thematized as the object of study to which models and categories from the sign sciences are applied, but it also provides the perspective for elaboration of these models and categories. "Of literature" in the expression "the point of view of literature" not only means to apply given models and categories to the study of literary texts, but far more significantly it means to refer to such phenomena as "excess," "otherness," "dialogism," "indirect word," "digression" which characterize the language of literature, as general categories for sign analysis (see Ponzio and Petrilli 2003a, 2006). As emerges from Levinas and Bakhtin, literary writing is the place *par excellence* for the full realization of "extralocalization," oriented by the logic of "absolute otherness" and "dialogism" rather than by monologic egocentric identity, where time and space do not belong to the order of productive accumulation, but find expression in dispersion, digression, expenditure, and dialogic heteroglossia.

Emblematically of his research toward the end of the 1980s as represented, for example, by his monograph *Il filosofo e la tartaruga*, Ponzio reelaborates such concepts as "otherness," "discontinuity," "discretion," "passion," "expenditure," "waste," "transcience," "drift," "shift," all of which are used to indicate a movement of escape from equal exchange logic. "Eternity of great artworks" and "vanity of the passions": this is a difference he questions. The vanity of the passions, that is, the logic of excess is what makes the great work of art; all narrations, all projects caught in the drift movement characteristic of the passions belong to the realm of the artwork; the ethics of narrativity is achieved in the vanity of passion. In this sense, the ethics of narrativity is the ethics of passion. If in the artwork, the project are the content, the meaning of action, and if passion is the form, then the vanity of the great artwork testifies to its otherness, to the ethics of dissipation over economy, in the sense of excess and expenditure over calculation. As Immanuel Kant, the philosopher of reason and expert of the passions, claims, differently from emotion which is impetuous and unreflecting, passion takes time and reflection to reach its goal.

The artwork testifies to the signifier's capacity for resistance with respect to equal exchange logic, which is identity logic based on short-sighted self-interest. Anthropologists teach us that societies do not exist at the mere subsistence level: Social reproduction always includes the logic of excess. Levinas indicates this phenomenon with the expression "*œuvre*" in the sense of artwork (Bakhtin also makes a significant contribution to this question). Artistic value is only truly achieved when based on otherness, opening towards the other beyond the limits of identity, contemporaneity, the totality. Extralocalization, outsideness, exotopy, the logic of excess are the condition for artistic value.

In this context, the word “passion” indicates the logic of excess; as such it is introduced by Ponzio to critique equal exchange logic, bourgeois economy, the logic of accumulation, functionality, efficiency, and productivity. The subject affected by passion is a passive subject. This subject is considered negatively by those conceptions that, on the contrary, exalt such values as authority, capacity for initiative, activity, consciousness. But the properly human subject, “*subiectum*,” is constitutively passive, subject to..., dependent on..., interested in..., oriented towards.... In other words, the passive subject as we are describing it, is characterized by opening to the other, by a capacity for listening to the other, for tuning in with the other. From this perspective, beyond the “passive subject” understood negatively as the subject that fails to be a controlling subject, to answer for itself and achieve its own personal aims despite any intentions in this sense, there exists another modality of being “subject to....” In this case, the passive subject is not measured in terms of intention, volition, the capacity to plan and control, but, on the contrary, implies availability towards the other, a capacity for otherness and dialogism, excess and listening. Thus understood, passivity is not associated with the condition of social and linguistic alienation, with the unquestioning subject who passively submits to external constriction, who takes the attitude of unquestioning acceptance. On the contrary, passivity according to this description refers to the capacity to surpass the limits of closed identity and private individual interest; it is connected to a subject conceptualized as a totality open to unlimited interrogation, with a propensity for creativity and critique.

Developing his discourse in this direction, Ponzio introduces the concept of the ephemeral to indicate a modality of the properly human which contrasts with the logic of productivity ever more dominant in the capitalist system. Victoria Welby, theorizing an open subject that evolves in the relation with the other in her analysis of subjectivity, also introduces the expression “ephemeron” for self which she contrasted to the concept of “Ident.” As we are describing it, the ephemeral is refractory to the logic of accumulation and consumption, to the logic of productivity and functionality and as such alludes to the non-alienated self. The ephemeral is the place of creativity, difference, freedom, of the properly human.

The ephemeral alludes to the absolute otherness of subjectivity, to the right to be dysfunctional with respect to social programs and dominant ideology; the right to be other with respect to identity fixed in roles, contracts, programs, with respect to commitments connected with the order of discourse, to the official order; the ephemeral is the right to the time of sickness, aging and death, to the time of friendship and love. In the context of the bourgeois system of values in capitalist society, the ephemeral represents excess and loss; with respect to the time of (Hi)story, accumulation, edification, it is the place of irreducible discontinuity, fragmentation, digression, of the discrete in the mathematical sense of the term. From this perspective, the discrete is time which resists time as it is commonly experienced, the time of History. Discrete, discontinuous time is the time of separation and otherness: time which is my own and different from yours, which cannot be accumulated with your time, time experienced as irreducible discontinuity. The discrete is an interval, an interruption, the place of otherness and resistance with respect to the official

public order. The discrete can also be understood in the sense of discretion, that is, reserve, secrecy, privacy, intimacy. The ephemeral is this as well, the place of discrete time, of time that is mine understood as other, the time of otherness, incommensurable time. The ephemeral denotes the condition of otherness and difference with respect to anyone else.

With the instruments of the language sciences, Ponzio proposes a critique of social programs aimed at subjecting science, education, and sociocultural values generally to equal exchange market logic and profit. Consumer society today is regulated by the frenetic rhythms of the production-exchange-consumption cycle. And, paradoxically, a condition for continuity in production cycles is production of the discontinuous, the superfluous, the ephemeral, what Ponzio describes as the “addomesticated” ephemeral. On the contrary, to overcome alienation and safeguard the properly human, creativity, difference, freedom, therefore the non-alienated self, a different type of “ephemera” is necessary from that programmed by the logic of accumulation and equal exchange. The authentic ephemeral is able to disrupt such logic, is refractory to it. Thus conceived, the ephemeral denotes the body with its pulsional economy, desires, disorders, ultimately with its vocation for death, all of which resist the logic of productivity, efficiency and functionality as established by a specific social order.

The concept of “ephemeral” is associated with otherness and the right to be other with respect to roles and contracts regulated by the logic of identity and self-interest, with respect to the order of discourse. The ephemeral represents excess and loss in a social reproduction system dominated by capitalist bourgeois values; with respect to the time of (Hi)story, accumulation, edification, the ephemeral is the place of irreducible discontinuity, digression, digression, discretion.

In line with his critique of identity, Ponzio underlines that to lose sight of the nonfunctional dimension of semiosis means to lose sight of the otherness of signs. Semiosis that is functional is semiosis of identity and signs that are functional to identity are signs of difference in the sense of signs that differ from other signs, that fix difference and tend to reduce signs to the status of signals. But semiosis also implies difference understood in terms of deferral and *renvoi* governed by the logic of otherness. The logic of otherness and nonfunctionality is structural to signs and stops semiosis from being reduced to a two way process based on the logic of return and gain, in the economic sense as well. On the contrary, semiosis is an irreversible process toward the other; the vocation of the sign, of semiosis is otherness. Thus regulated, semiosis transcends equal exchange logic between the signifier and the signified, and expresses its specific semioticity in expenditure without a counterpart, without gain, in the logic of excess. Semioticity thus described cannot be reduced to the status of semiotic processes dominated by signality. Otherwise, sign interpretation would involve no more than the processes of decodification and identification. On the contrary, to recognize the specificity of signs in their capacity for nonfunctionality and otherness means to situate the sign in the semiotic chain of open-ended deferrals from one sign interpretant to the next. Such open logic, or rather dialogic, acknowledges that signs and sign relations are oriented by the creative logic, or rather dialogic, of responsive understanding.

Communication in today's globalized world is communication-production, communication that responds to the ideologic-dominating social reproduction. Communication in the globalization era is world communication not only in the sense that it extends over the entire planet but also that it accommodates the world as it is, presenting itself as a function of a world without the least opening to critique. In this context, by 'world' is understood the time-space of ontology, individual, and collective identity, being, the existent as it is, the realism of politics to the very point of accepting the *extrema ratio* of war.

In line with his critique of the logic of identity and following Levinas and his phenomenological analyses, Ponzio thematizes the connection inscribed in Western culture between world, narration, history, duration, identity, subject, liberty, work, donation of sense by intentional consciousness, individuality, difference-indifference, interest, well-being, ontology, truth, force, reason, power, work as merchandise, productivity, politics, and war. This connection has always been exploited and exasperated by capitalism, and even more so in the present-day globalization era. With respect to a World that exploits the other to its own ends, a world that defends the rights of identity, self-interest, that is ready to sacrifice alterity for the sake of identity, a world in which politics is functional to persistence in being and identity to the very point of acknowledging the reasons of war—where peace is no more than momentary repose, respite functional to war, just as the night, free-time, rest is functional to the return to work, to the necessities of the day—Ponzio interrogates the possibility of establishing relationships that are not of this world, and all the same are of the material and earthly order.

The properly human is traced outside the space and time of ontology. It belongs to a dimension where interhuman relations cannot be reduced to the category of identity, to relations among predefined subjects and objects, or to relations of exchange, equality, functionality, productivity, self-interest. Ponzio explores the possibility of response in a dimension beyond being, in what with Levinas he calls "otherwise than being." By contrast with "being otherwise," the expression "otherwise than being" indicates the outside with respect to ontology, to the world as it is. This is a question of earthly transcendence with respect to the world, in a dimension of sense that is other with respect to the sense of the world. By contrast with the humanism of identity, another form of humanism is possible based on the logic of otherness, the humanism of alterity, of otherwise than being.

Ponzio associates the concept of "otherwise than being" as developed by Levinas to the Bakhtinian concept of dialogue. Dialogue is not understood as formal dialogue, the place of common encounter and exchange of ideas among different interlocutors. Nor is it understood as superseding contradictions dialectically in synthesis. Instead, dialogue here is understood as exposition to otherness, intercorporeity, involvement with the other, where the allusion is to relations of unindifferent difference rather than of indifference. Therefore, Ponzio formulates his critique of today's globalized communication-production system keeping account of Levinas's existential dimension of otherwise than being, on the one hand, and of the extralocalized dimension of Bakhtin's great time, on the other.

32.5 Global Semiotics and the Detotalizing Method, a Semioethic Perspective

As can already be glimpsed from what we have said so far, an important focus in Ponzio's work in the sign sciences is Thomas Sebeok's (2001) global semiotics and thematization of the relation between signs and life, the sign sciences and the life sciences, semiotics and biology. In recent years, biosemiotics has emerged as a new discipline, with significant initial input from Sebeok and his global semiotic vision. Of particular interest to Ponzio is Sebeok's interpretation of the concept of modeling and interrelation between semiosis and life over the planet. He develops Sebeok's conception of interrelatedness at both the "semiosic" and "semiotic" levels in terms of dialogism and intercorporeity, also recalling Mikhail M. Bakhtin's interest in biology present throughout his writings. In fact, the object of study of *global semiotics* or *the semiotics of life* is the semiobiosphere, which Ponzio analyzes as a detotalized totality.

Peirce, Bakhtin, and Sebeok all developed original research itineraries around the sign and despite terminological differences are easily related in light of the concepts of dialogism and modeling pivotal in biosemiotics. Ponzio inevitably turns his attention to Jakob von Uexküll's biosemiosic "functional cycle" and the relation to dialogue and communication. Dialogism understood in biosemiotic terms overlaps with the concepts of interconnectivity, interrelation, intercorporeity and presupposes the otherness relationship.

According to Uexküll, while in nonhuman living beings the relation with the *Umwelt* is stable and concerns the species, instead in human beings it changes and concerns the single individual. This is at once an advantage and a disadvantage. Thanks to "syntactics" inherent to our species specific modeling device, the human being—obviously relative to its historically specified social context—is potentially able to construct, deconstruct and reconstruct an infinite number of worlds and worldviews on the basis of a finite number of elements, a capacity which distinguishes human beings from other animals. Thanks to *syntactics* human beings are able to interrogate the *Umwelt*. And just as the human being can produce his own world, he can also endanger it, destroy it, to the point even of threatening extinction of all life forms on Earth. The capacity for reflection on signs is unique to the human race and is at the basis of the capacity for responsibility. Such issues shift semiotic reflection in the direction of *semioethics*.

Sebeok's vision of global semiosic interrelatedness and Bakhtin's dialogism are connected by a common interest in the life sciences. Both Sebeok's global semiotics and Bakhtin's dialogism has a grounding in biology. It seems that Bakhtin authored an essay on contemporary vitalism, though signed by the biologist Ivan I. Kanaev for credibility. In any case, beyond the problem of authorship, Ponzio maintains that by reading Bakhtin jointly with Sebeok dialogism can be extended beyond the sphere of anthroposemiosis and thematized with modeling as subtending all communication processes in the biosphere. This does not contradict the Peircean matrix of Sebeok's semiotics, since the concept of dialogue plays a fundamental role in the overall architecture of Peirce's thought system as well.

Sebeok has contributed in important ways to the current worldwide status of semiotics or “doctrine of signs,” an expression he prefers to both the more ennobling term “science” as well as “theory,” adapting it from John Locke—who maintained that a doctrine is a body of principles and opinions that vaguely form a field of knowledge, thereby taking his place in a tradition that includes Berkeley and leads to Charles S. Peirce. Ponzio takes the Sebeokean agenda and paradigm one step further into the domain of ethics. In other words, biosemiotics is projected into the domain of philosophical ethics and vice versa. This is particularly explicit in the monograph *Semiotics Today. From Global Semiotics to Semioethics, a Dialogic Response*, prefaced by Marcel Danesi with an introduction by Paul Cobley (Ponzio and Petrilli 2007). As Danesi says, a pivotal question in this book is whether or not biosemiotics can be used not only to unite the body and the mind at an abstract intellectual level but also to show people of all backgrounds and of all cultures how closely they are related through semiosis. On his part, Paul Cobley in his introduction points out how a semiotic consciousness is not only integral to understanding developments in the world today, but that it is crucial to the future of the planet. All this leads to the need for reflecting on priorities for semiotic studies today (see also Ponzio and Petrilli 2005).

Ethical problems connected with biological and medical discoveries in genetic engineering, neurobiology, pharmaceutical research, and so forth, find a unitary and critical point of view in semioethics where they become the object of sign studies that recognize the inevitable relation of signs to values in human semiosis. But even before reaching the stage of thematization in terms of semioethics, Ponzio points out that ethical problems are already part of two totalities which together contribute to the characterization of these same problems: one totality is the *semiobiosphere*; and the other is *global communication*—an expression which describes today’s social reproduction system. Coherently with its philosophical orientation, which is critical and foundational, semioethics must necessarily keep account of this double contextualization for an adequate treatment of the problems at the centre of its attention.

The context provided by global semiotics favors a better understanding of problems at the centre of the semioethic quest. Reference here is not only to contextualization in terms of extension and quantity but also of quality. In relation to this last point, “contextualization” means *critical reformulation*. Global semiotics contributes to an *approach to semioethics that is foundational and critical*. In addition to this dual contextualization of the phenomenological and ontological orders, another type of contextualization is necessary if problems relevant to semioethics are to be treated adequately. I am now referring to contextualization of the socioeconomic order and specifically to today’s *global communication-production* world.

A task for semioethics today is to evidence the relation among these different contexts from the viewpoint of ethics. As global semiotics or semiotics of life, semiotics today must take on the responsibility of denouncing inconsistencies in the global system, any threats to life over the planet inherent in this system. What I would describe as the “semioethic turn” in semiotic studies today is a development on Sebeok’s global semiotics in terms of a special interest for the relation between signs and values and for the question of responsibility which invests the human being as a semiotic animal.

32.6 Philosophical Insights and Political Perspectives for Signs and Life

As Ponzio observes in *Umano troppo disumano* (Athamor 2007–2008), the “destructive character” (Walter Benjamin) of the capitalist system today and its global communication-production system has reached planetary dimensions. Destruction is connected with the logic of identity and its obsessions, with the will to assert identity at all costs, even at the cost of war, with the need to belong to a community, or assemblage of some sort, with the will to defend and export one’s “lifestyle,” with the “self-celebration of subjectivity” and the arrogance of its demands, with the exaltation of technique, work, commodities, productivity, with insistence on reducing society to a community based on work, apart from anything else at a moment when the prospect is a “society of workers without work” (Hannah Arendt). Identity is not only false but also dangerous and destructive—whether a question of the single individual or of collective identity (a social community, a historical language, a cultural expression of some sort)—when conceived separately from the other and in the context of conflictual relations among assemblages in accord with dominant ideological tendencies.

Present day mainstream trends in philosophy, the philosophy of our time, philosophy of the actual endorse the “rational and political” animal’s resigned adjustment and subjection to the hard law of reality, even to the point of consenting to the *extrema ratio* of war. Such an orientation is part of the same destructive ideologic typical of our times. Under the mask of “tolerant humanism,” otherness continues to be denied, the otherness of the other, *autrui*, the otherness implied by the flow of time itself which in fact continues to be conceived in terms of the linear time of the “lone subject” (Levinas), of synchrony, History, presence, of totalizing consciousness. The “humanism of identity” can only be counteracted by the “humanism of otherness,” a form of humanism that does not exclude the rights of the other from “human rights.” Humanism of the other implies a listening attitude, time for the other. The humanism of otherness knows that time now available as a consequence of being freed from work is time for the other, time for the otherness of self and for the otherness of the other. Time thus conceived constitutes our “real social wealth,” as Marx himself once observed in his *Grundrisse*.

References to Karl Marx abound in Augusto Ponzio’s writings, and precisely to that Marx, as Enzensberger recounts, who claimed he was not a Marxist. In particular, I wish to signal Ponzio’s translation of Marx’s *Mathematical Manuscripts* from German into Italian. Though written across most of his existence, Marx worked most intensely on these manuscripts during the last two years of his life, reaching solutions and explanations that find confirmation in the ongoing progress in mathematical research through to today.

To focus on signs and values means to focus on the ethical-pragmatic-critical dimension of semiosis, therefore, on the propositional and projectual orientation of semiotics. The so-called Bari-Lecce School proposes to develop semiotic research in this direction. This school is headed by Ponzio and inspired by the originality of his intellectual work and commitment to the quality of scientific research relatedly

to the problem of the quality of life. As articulated in *Tesi per il futuro anteriore della semiotica* (Caputo et al. 2006) which delineates the orientation of our research program, a central claim is that the anterior future of semiotics is the contemporary world.

The term “semiotics” is not only the name of the general science of signs, but it also designates the human species-specific propensity to use signs in order to reflect on signs and act as a consequence. Never has the present been so charged with *responsibility* toward the future and so empowered to put the possibility itself of a future at risk as in the present day and age. The contemporary world is the time–space of decision making that will condition the *destiny of the life of signs and the signs of life* over the whole planet.

From a geopolitical point of view, the world as it is organized today is the result of oppositional relations among identities, ultimately of war. As Ponzio brings to our attention in the collective volume, *Mondo di Guerra* (Athanas, 2005), there does not exist a national territory, state, community, union of states that is not the result of war. All world orders are sanctioned by war. Peace is peace for war, peace that ensues from war, reached through war. War establishes borders and in the name of borders continues to reproduce itself. To maintain peace is to maintain world order as achieved through war. In this sense to maintain peace is to maintain war.

Ponzio observes that an orientation in the direction of effective peace is dissident with respect to customary pacificism and to the humanism of humanitarian wars; it is dissident with respect to the peace of war, as much as with respect to the peace of feeling *at peace*; in a few words, authentic peace is dissident with respect to peace characteristic of this world, the world as it is, the peace of cemeteries.

Communication presupposes hospitality toward the other, toward the interlocutor. The word, whether written or oral, is addressed to the other, to the otherness of the other, which as such is contextualized in a face-to-face relation and cannot be represented or thematized. Listening to the other transcends space and time as these pertain to the world, to the world as it is, to being, therefore to the world of work, to the time of work-merchandise which supports the ideology of war. Contrary to “preventive war” which produces nothing else but “infinite war,” listening is the condition for real preventive peace.

Through his studies in philosophy of language, semiotics, and linguistics, Ponzio develops critical methodological instruments which he also applies to his ongoing discussion of social and political issues. Sign and language theory is closely interrelated with his critique in the sociopolitical sphere. From this point of view, his work is closely associated to Ferruccio Rossi-Landi and Adam Schaff to whom, in fact, he has dedicated numerous monographical studies. For a better, that is, scientific and rigorous understanding of the world today in the era of globalization reflection on sociopolitical issues can only benefit from research on signs and language as conducted by the sign sciences.

Ponzio develops a critique of identity across the broad range of his writings. All assemblages based on the logic of identity and forming some sort of a community, whether ethnic, sexual, national, or social, enter into oppositional relations with each other: white/black; man/woman; husband/wife; communitarian/extracommuni-

nitarian; fellow citizen/foreigner; professor/student, and so forth. Like all totalities, such assemblages are formed by homologating the different elements composing it and sacrificing otherness. Differences are canceled and rendered uniform to form the assemblage which then enters a relation of opposition with respect to other assemblages, other communities. The relation of opposition is a necessary condition for assertion of a community in its own specific difference by comparison to another community.

As a noun, the word “uniform” is part of military language, similarly to the nouns “general” and “official.” All three are somehow related to the general value of uniformity in a community, a genre, and to obedience to official discourse in that community. Insofar as they are based on difference and opposition, all genres, all identities are put into a uniform; they involve recruitment, anticipate conflict, are called to arms. Difference based on identity, therefore difference which characterizes the assemblage, involves elimination of another type of difference, that connected with singularity, unindifferent difference, non-oppositional difference. Singular, unique difference, difference based on otherness logic, outside identity, outside genre, *sui generis*, noninterchangeable difference, is unindifferent difference, non-oppositional difference. The type of otherness that subtends and orients unindifferent difference is nonrelative otherness, absolute otherness. This is otherness specific to each single individual, not otherness relative to another, “relative otherness” (which Peirce places in the category of secondness), but “absolute otherness” (which instead Peirce places in the category of firstness or orience); otherness in the relation among singularities that cannot be replaced and that are unindifferent to each other.

Taking up Levinas and his analyses of the I–other relation in *L'Ecoute de l'autre*, 2009, Ponzio returns to the I–other relation thematized by Levinas as the face-to-face relation, that is to say, a relation among singularities, a relation of single to single, of unique to unique. The face-to-face relation rejects all forms of exclusion of the other, all forms of violence. This relation is presupposed by all forms of communication and representation, by all forms of objectification and nomination of the other. The I–other relation is irreversible. In this relation the self is responsible toward the other in an absolute sense, that is to say, responsible without alibis (Bakhtin), without the possibility of escape, which implies responding to the other and for the other.

The alterity relation is an essential characteristic of the word, the utterance. In the word we may perceive the presence of another word, which renders that word *internally dialogic*. One’s own word alludes always, in spite of itself, whether it knows it or not, to the other word, to the word in its absolute otherness, *autrui*. Encounter among words is not the result of initiative taken by self. As anticipated above, the word is dialogic because of its inevitable involvement with the word of the other, dialogue is not something we choose; on the contrary, we suffer dialogue, are subjected to it.

Other issues which emerge in Ponzio’s research on the word include the relation between the word and silence, between the word and listening. Ponzio explores the eloquence of listening and of what he calls “taciturnity.” Most importantly, he

outlines the possibility of what he calls “linguistics of taciturnity” as against “linguistics of silence” where “silence” alludes to the absence of listening, the lack of hospitality toward the word of the other, characteristic of communication in today’s globalized world: “linguistics of silence” and “silence of communication.” Free, unprejudiced listening implies encounter among words, but this word is not the word that one keeps, breaks, takes, goes back on, hands over, whose sense one grasps: in Italian “mantenere la parola,” “mancare di parola,” “prendere la parola,” “rimangiarsi la parola,” “afferrare il senso”; listening, as described by Ponzio, implies freeing the word from those common places where it is forced to adapt to identity, that is, the places of silence. The word of literary language experiments the otherness relation and the practice of listening to the highest degree. Literary writing releases the word from the limits of the logic of identity and self-interest, therefore, from the limits of responsibility with alibis.

The question of otherness is inseparable from the question of extraneousness (*étrangéité*). From this point of view, the problem of the other becomes the problem of the foreigner, the stranger, the alien, the problem of the relation to the language of the other, and therefore also the problem of translation. Under this aspect, Ponzio dialogues with authors like Blanchot, Bataille, Barthes, Deleuze, Derrida, and Kristeva. This particular thread in his research contributes to a better understanding of the condition of strangeness, extraneousness not only in relation to a foreign language, but above all in one’s own so-called mother tongue. Extraneousness emerges as a condition for the properly human. It is also the condition for forms of coexistence, communal life, of living together that are altogether different from all those forms of community that have existed so far and are based on self-interest, in which each single individual is taken into consideration only to the extent that he or she results useful, has a job, works for a community. Instead, grounded in extraneousness living together is characterized in terms of the “extracommunitarian,” as a community that is extra, unprecedented, unheard-of, a community where the other is an end and not a means.

As a conclusion and synthesis, I would like to finish this presentation simply by citing Paul Cobley’s insightful observations as reported in his entry dedicated to Augusto Ponzio in *The Routledge Companion to Semiotics*, 2010:

PONZIO Augusto Ponzio (b. 1942), semiotician at the University of Bari. Ponzio is a celebrated theorist, in particular, of dialogue, alterity, subjectivity, and global communication. He is well known for his collaborations and friendships with, as well as his presentations of the work of, Schaff, Levinas, Barthes, Kristeva, Bakhtin, Sebeok, and Rossi-Landi. He has also written about Peirce, Wittgenstein, Marx, and Peter of Spain. He has collaborated with numerous scholars including Julia Ponzio, Cosimo Caputo, Massimo Bonfantini and, especially, Susan Petrilli.

Despite his towering achievement in his many fields of interest, it is possible to argue that, at the very core of his thinking, there lies a single concept: dialogue not as an initiative but as a constant demand. It is a conception of dialogue which, in going beyond the liberal notion of meeting others halfway, negotiating and compromising, actually opposes such agentic programmes, recognizing in dialogue a compulsion and demand

rather than self-identified goodwill. Such a framing of dialogue is to be found, too, of course, in Bakhtin; as Ponzio and Petrilli succinctly state:

For Bakhtin, dialogue is not the result of an initiative we decide to take, but rather it is imposed, something to which one is subjected. Dialogue is not the result of opening towards the other, but of the impossibility of closing. (Ponzio and Petrilli 1998, p. 28) [*Signs of Research on Signs*, now available at www.augustoponzio.com]

Yet, it would be a mistake to imagine that dialogue after Ponzio is merely a gloss on Bakhtin and Levinas. And as Ponzio puts it, dialogue should not be seen in the service of mere self-affirmation:

On the contrary, as formulated by Levinas, dialogue is passive witness to the impossibility of escape from the other; it is passive witness to the fact that the other cannot be eluded, to the condition of involvement with the other apart from initiative taken by the subject who is called to answer to the other and for the other. The ‘I’ is constitutionally, structurally dialogic in the sense that it testifies to the relation with otherness, whether the otherness of others or the otherness of self. (Ponzio 2006b, p. 11) [*The I Questioned: Emmanuel Lévinas and the critique of occidental reason*, now available at www.augustoponzio.com]

For Ponzio, then, dialogue provides the crucial means for addressing the communication–ontology relationship, especially in the phase of global communication.

What global communication has made clear is that, in touting the inclusiveness of capitalism, it has reached a crisis point in the latter’s own palpable logic of exclusion. What capitalism represses—and it does so in many forms—is the very compulsion of dialogue that his work describes.

Taking his cue from Thomas Sebeok, Ponzio views semiosis in a “global” perspective which is not fixated on anthroposemiosis alone, despite the fact that, in his formation “communication-production,” the profit-making imperative of global communication has assumed a crucial position and has become, potentially, disastrous for the planet. Where theory is concerned, Ponzio demonstrates that there is a need to adhere to the larger picture of semiosis. In *Semiotica dell’io* (Sebeok et al. 2001), inspired, principally, by Sebeok’s observations on the semiotic self, Ponzio does not stop at mere societal observation. Rather, his “depth” analysis sees sign processes at work across all practices and across all species, in the process of communication where dialogue is repeatedly stymied. Although he proceeds from the tyrannies of global communication and its inculcation in “communication-production,” he also identifies the general repression of dialogue in deriving from the denial of communication beyond the verbal.

Ponzio’s critique of the category of “Identity” (see Ponzio 2006b) demonstrates that “care of the self,” can only realistically proceed from a dialogic “care of others,” where “others” must mean the entirety of the semiosphere. It is in this sense that Ponzio has been compelled to map the contours of a future semioethics. (PC)

In a brief bio-bibliographical note entitled “Sidelights” (see the website: www.augustoponzio.com), Ponzio explains his theoretical interests, developed with special reference to the authors mentioned in this overview—and particularly Bakhtin and his Circle, Levinas, Marx, Schaff, and Rossi-Landi—, in the following terms: “from these authors I have developed what they share in spite of their differences, that is, the idea that the life of the human individual in his or her concrete singularity,

whatever the object of study, and however specialized the analysis, cannot prescind from involvement without alibis in the destiny of others.”

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Susan Petrilli is Professor of Philosophy and Theory of Languages at the University of Bari “Aldo Moro,” Italy. Her research includes but is not limited to the following areas: philosophy of language, biosemiotics, bioethics, semiotics and interpretation, translation theory, and the work of Lady Victoria Welby. The following are some of her books in semiotics, co-authored with Augusto Ponzio, that are essential to an understanding of this interdisciplinary: *Thomas Sebeok and the Signs of Life* (2001), *I segni e la vita. Sulla semiotica globale di Thomas A. Sebeok* (2002), *The Semiotic Animal* (also with J. Deely 2005), *Reasoning with Emmanuel Levinas* (also with J. Ponzio 2005), *Semiotics Unbounded: Interpretive Routes through the Open Network of Signs* (2005), *Semiotics Today: From Global Semiotics to Semioethics* (2007), *Lineamenti di semiotica e filosofia del linguaggio* (2008). In addition, her monographs include: *Significs and Understanding. Reading the Works of Victoria Welby and the Signific Movement* (2009), *Sign Crossroads in Global Perspective. Semiotics and Responsibilities* (2010), *Parlando di segni con maestri di segni* (2011), *Un mondo di segni. L'aver senso e il significare qualcosa* (2012), *Expression and Interpretation in Language* (2012), *The Self as a Sign, the World and the Other* (2013), *Riflessioni sulla teoria del linguaggio e dei segni* (2014), *Sign Studies and Semioethics. Communication, Translation and Values* (2014), *La vita dei segni. Percorsi della semiotica* (2015), *Victoria Welby and the Science of Signs. Significs, Semiotics, Philosophy of Language* (2015).

Chapter 33

Even Signs Must Burn: From Semiotics and the Modern City to Jean Baudrillard's Symbolic Exchange and the Postmodern City

Thanos Gkaragounis

33.1 Introduction

Semiotics, a vast body of work that has had a huge impact on social sciences, humanities and cultural theory, is mostly associated with the work of Ferdinand de Saussure. Simplifying to a considerable extent, Saussure argued that language is a *social institution* and that what people make of it is highly dependent on some basic dichotomies. In order to support his argument, he put forward a variety of dual convictions. He insisted on the distinction between *langue* and *parole*, *signifier* and *signified*, *diachrony* and *synchrony* and the *paradigmatic* and *syntagmatic* axes. A variety of theorists have taken on and expanded these views. Roland Barthes, (1967, 1972) in the domain of cultural theory; Levi-Strauss (1958) in social anthropology and Lacan in psychoanalysis are among the well-known theorists who used and occasionally abused the theory proposed by Saussure. Inevitably, in this chapter, I do not discuss the links and relations between all the subfields of semiotics. My own familiarization is limited; my scope and focus, in addition, modest.

Unsurprisingly, Saussurian semiotics is often considered to have inspired a variety of structuralisms in Continental philosophy—mainly in the 1960s. Structuralism's influential turn notwithstanding, three major contributions of semiotics are usually acknowledged: in anthropology, urban semiotics and Marxist geography—reviewing in that way, *retroactively* and *retrospectively*, the importance of Saussure's theory.

Viewed from a critical perspective, namely from a *poststructuralist point of view*, the chapter attends to the way in which the semiotic turn of Saussure through David Harvey's Marxist geographical theory has drawn a certain picture for the modern city and has told a certain story of it, which can now be reconsidered and reconstructed in a single but *double* stroke: once we move from *semiotics* to *symbolic*

T. Gkaragounis (✉)
Harokopio University, Kallithea, Athens, Greece
e-mail: gkaragounis@hua.gr

exchange and once again when we move from Marxism and productivist discourses to consumption and poststructuralist theories of difference.

Spatial scientists, geographers and planners found themselves at pains to come to terms with a more fertile way in incorporating and introducing a spatial-materialist approach to a semiotic one (cf. K. Lagopoulos and Boklund-Lagopoulou 1993). Not everyone was of course keen to accept the primacy of language, linguistics and so on, especially when it came to philosophers with certain affiliations with space, geography and the city (cf. Lefebvre 1991; Merleau Ponty 1962).

The importance of phenomenology for the humanistic turn of geography notwithstanding, Marxists, phenomenologists, humanists and poststructuralists alike admit, however, that in recent days, the ‘*urban unit*’, that is the city both as an *external/objective* world and a *subjective analytical* category, has been subjected to tremendous and vast transformations. I shall indicate here two of the most important: first, the growing significance of consumption for the city and second, the growing significance of electronic media and world telecommunications for meaning, communication and language.

Two things make sense amidst such a highly changing world. First, that the city is rapidly changing (*transformed from a productive unit of collective consumption and industrial production to a spatial formation of private consumption*), and second, that the language is equally influenced by the world media (*transformed from a semiotic unit to a site that stages ‘sign-values’*, well beyond the traditional semiotic theory of *signifier and signified*).

In the light of the above, the chapter is divided into three parts. The first part presents a certain limited version of Saussure’s semiotic theory, in order to delve, subsequently, in to Marx’s theory and David Harvey’s historic-materialist geography, theorizing how the city is seen in modern times—though as strange as it may sound Harvey’s text is susceptible to the *metaphysics of both utility and language*. The second part highlights some of the refreshing ideas of *spatial-materialist semiotics* that intended to build a telling abridgment between linguistic theory and Marxism (cf. Lagopoulos and Boklund-Lagopoulou 1993), but eventually, it goes beyond Marxism, semiotics and the modern city as the unit of collective consumption and industrial production, drawing (a) on Baudrillard’s (1981) bold declaration that ‘even signs must burn’ explaining what is wrong with signs and semiotics, and (b) Derrida’s *hauntology* and *spectrology* unsettling the myth of utility in Marx. The third part, finally, (i) unpacks what sort of ‘language’ will be probably needed in order an alternative (differential) *semiosis* to hold sway: for Baudrillard (1993a, b, c), there is one ‘type of exchange’ that is not susceptible to semiotics: *symbolic exchange*, and (ii) draws some premature conclusions and reflections on the consequences for theorizing the city as part and parcel of what Bauman (1992a, 1992b) once indicated with respect to consumption: that we live today in a consumer society, exactly in the same way our forefathers lived in a society of producers.

33.2 Semiotics

33.2.1 *The Metaphysical Divide: Signifier/Signified of de Saussure*

De Saussure insisted on the social character and collective origin of language. Like Durkheim and Mauss, who both denied the individual the right to *choose* freely his work or death/suicide and his religion or gift-exchange, conceiving of the subject as the outcome of wider social, cultural and economic structures and processes, de Saussure highlighted the all-encompassing character of *langue*.

De Saussure constructs language in *dualistic terms*—a *doubly folded* institution, so to speak, and a *system of classification*, distinguishing between a **social part** [*langue*] and a **personal part** [*parole*]. Writing, however, is a much contested issue in linguistic theory—a whole set of ideas surround it in terms of its relation to voice, oral speech, phonetics, social sciences and cultural theory, especially after Derrida's (1976) speculative theorization on the *metaphysics of presence*. Put bluntly, in Saussure's theory, writing is always an idol, a mirror, a representative of speech, a copy of the original and the dead letter of living oral speech. Thinking in dualistic terms, though, is not always helpful. For example, what is an original and how or after what processes it loses its originality? After being reproduced, simply cited or just mentioned? Additionally, are there any differences or variations in terms of reproduction or in terms of originality (i.e. is the second copy more original than the third or the fourth)? Moreover, are certain originals immune to the copy/original hierarchy (i.e. is there an original bible)?

Derrida reflects on these issues, not in order to reverse the equation (copy/original) but in order to *problematize* and propose a more complex relation between the two (which is also what the logic of *double bind* implies, or the *both/and* logic). In his essays *Of Grammatology* and *Writing and Difference* (Derrida 1976, 1981), he is suspicious of similar conceptions between an *original* and a *copy*, etc.—this more complex theory deconstructs the metaphysical semiotic formula of *copy/original* by way of *differance*, the *hymen deconstruction*, etc. Suffice it to note, that language, in the Derridean *oeuvre*, does not correspond to some social reality or objectivity out there. The linguistic sign, as de Saussure avers as well, unites not a thing with a name or a word, but an *acoustic image* with a *concept*.

Further split in to *signifier/signified*, a sign accordingly comprises a union, being characterized by what de Saussure calls the *arbitrariness of the sign*, the fact that it cannot be explained in any natural way. Crucially, the *nature* of the bond [*arbitrariness*] between signifier and signified reminds of another bond, namely the bond of use and exchange values, in which the first part is always considered the solid, natural and unchallenged background that stages the socially produced and culturally varied exchange value.

Be that as it may, de Saussure's influence is, mindedly, huge. Following to some extent, Durkheim's theorization on the priority of society and collective conscience over the subject, and Mauss' argument beautifully portrayed in his essay on *The*

Gift, Barthes uses semiotics in order to come to terms with a variety of everyday issues: from pop culture, advertisements, to TV series and other *mythologies*. If for Mauss and partly for Durkheim, sociology and anthropology should treat social events as ‘total social phenomenon’, for Barthes myth is, likewise, a structure that can help us understand modern societies.

The French social anthropologist Levi-Strauss, though not the only one who remained faithful to the scope of *totality* in terms of the mythic structure of primitives, is still the most influential and well-known theorists for having successfully transposed Saussure’s methods to ethnographic and ethnological studies.

But whilst Levi-Strauss usefully suggested that social sciences and humanities should follow the model of *structural linguistics*, as both language and culture depend on *oppositions*, *correlations* and *relations*—forming, prior to anything else, a *state of mind*—he remained trapped into the *metaphysics of value*, seeing writing as a mirror/reflection of speech (cf. Levi-Strauss, *Tristes Tropiques*; *Primitive Mind*).

Social anthropology’s task to deal with the hidden, structural logic of social phenomena or what Levi-Strauss calls the *unconscious state* of things and matters, rather than the conscious traits that appear on the surface, is indeed laborious. It is striking, nevertheless, how this kind of structural analysis is not that far from Marxist analysis. *Structural Marxism* (not always an easy or coherent for the same reason body of work) presents similar ambitions if not *problematizations*, though not necessary problems. For instance, capitalism in Poulantzas’ (*State, Power, Socialism*), Castells’ (*The Urban Question*) and Althusser’s (*For Marx*) writings (considered here as representatives of structural Marxism) is analysed as a structure, hit by major contradictions and suffering crises due to the abstract way labour is appropriated by those who possess the means of productions serving the overall scope of capitalism: *accumulation for accumulation’s sake*.

Suffice it to note that as structuralism is concerned, the units and the parts constitute a whole that plays a major role in unpacking the meaning not only of *family organizations*, as in Levi-Strauss, but also of various aspects of social life. Economy, as was briefly mentioned by means of Marxism, is one of them. Let me turn, therefore, to the manner in which another structuralism held sway: Marxism, which opened the way for a radical theorization of the city: Harvey’s (1982, 1985) *spatialization of capital*.

33.3 The Metaphysics of Utility: Marx and Harvey

33.3.1 Marx

Seen from a structuralist perspective, capitalism is organized on the basis of the *structure of value* which is split into use and exchange values. That metaphysical conception offers a theorization of the city that is immanent to what we have already called the *metaphysics of linguistic value*.

As every faithful and committed reader of Marx's well-known theory knows, 'Every useful thing, as iron, paper, &c, may be looked at from the two points of view of quality and quantity [...] To discover the various uses of things is the work of history' (Marx, p. 1). A few lines later, though Marx notices that 'A commodity, such as iron, corn or a diamond, is therefore, so far as it is a material thing, a use value, something useful' (Marx, p. 1). A commodity, we are told, necessitates the existence of utility and is (pleonastically maybe) what it is, from the time however, that is recognized as 'a useful thing'. Indeed: 'A commodity such as iron is [...] a use value'. More importantly, "the exchange of commodities is evidently an act characterized by a total abstraction from use values. Then, one use value is just as good as another, provided only it be present in sufficient quantity' (Marx, p. 1). The latter appear contradictory with respect to Marx's analysis.

One is tempted to ask, for example, how is it possible for a thing to be part of history, whilst on the other hand, 'one use value is just as good as another'? In addition, how is it possible for a statement such as 'when commodities are exchanged, their exchange value manifests itself as something totally independent of their use value' (Marx, p. 2) to be true, if utility is still part of a certain *calculus*; i.e. 'when we assume to be dealing with *definite quantities*, such as dozens of watches, yards of linen, or tons of iron' (Marx, p. 1; emphasis mine). Definite or infinite, *quantities it is*.

These are parts of the *ambivalence* that haunts value, both economic and linguistic values. Unsurprisingly, the unresolved issues of Marx's theorization open up value to a theorization of a different kind, a *differential* theorization that follows the logic of the *double bind*, the logic of *both/and* rather than the logic of the *either/or*.

A variety of questions remain answered. Is utility a matter that should concern only historians? Or is it something 'deeper' going on in there that might slip our attention, once we insist on taking utility on firmly qualitative grounds? Marx adamantly insists: 'A thing can be a use value, without having value' (Marx, p. 3), but just three lines after that he takes it back, plainly admitting that 'nothing can have value, without being an object of utility. If the thing is useless, so is the labour contained in it; the labour does not count as labour and therefore creates no value' (Marx, p. 3).

Paradoxically, the once natural and qualitative usevalue is surrendered to the differential social of calculus, quantitative abstraction and fetishism of exchange values. Usevalue has a life of its own, exactly in the same way in which the 'socially necessary labour' makes things exchangeable.

Typically, Marx's goes on without reckoning with these contradictions. When he assumes, for example, that 'Use values cannot confront each other as commodities, unless the useful labour embodied in them is qualitatively different in each of them' (Marx, p. 4), he misses the fact that this 'difference of quality' is already a socially produced difference—he admits after all that 'So far therefore as labour is a creator of use value, is useful labour' (Marx, p. 4). Yet, as a socially produced difference, usevalue is already an equivalent of exchangevalue. Both values are socially produced; pure and simple, they follow a *double bind* logic (both/and); utility [...] a 'useful labour'. Usevalues, therefore, may not be able to confront each other by

means of the congealed labour they embody, but they can, perfectly, confront each by means of their *socially differentiated utility* (a car is more useful than a slice of bread—in case, of course, you need a lift!).

33.3.2 *David Harvey*

From de Saussure's *signifier/signified* metaphysics of linguistic value, to Marx's *use/exchange* value metaphysics of economic value, the distance is not that long. Arguably, it is through the medium of space that their vast influence has attracted some considerable attention lately—even if unwittingly. David Harvey has tremendously contributed to bringing up the consequences of this attention in urban studies.

As every spatial theorist knows, the survival of capitalism depends on its spatial surroundings in order to overcome, produce and achieve new forms of capitalist accumulation. To the extent, however, that for Harvey (1982), p. 379), '*devaluation, arising for whatsoever reason, is always particular to a place, is always location specific*', one of the key terms in reformulating Marxist political economy in spatial terms is social justice. This is because it permits to think 'about urban problems and how by virtue of such thinking we can better position ourselves with respect to solutions' (Harvey 1992, p. 588). In addition, *positionality*, the social place from where one discusses and decides on the form and meaning of social justice, is 'fundamental to all debates about how to create infrastructures and urban environments for living and working in the twenty-first century' (Harvey 1992, p. 588).

Naturally, such a discussion on social justice cannot be tackled on the basis of some cultural logic of diversification. As Harvey claims, (Harvey 1992, p. 589) with respect to Tompkins Square Park's colourful mixing of people and images in New York, 'On a good day' will allow 'to celebrate the scene within the park as a superb example of urban tolerance for difference, an exemplar of what Iris Marion Young calls "openness to unassimilated otherness"'. Yet, he immediately suggests that 'there is an immediate question mark over that suggestion: in what ways, for example, can homelessness be understood as spontaneous self-diversification, and does this mean that we should respond to that problem with designer-style cardboard boxes to make for more jolly and sightly shelters for the homeless?' (Harvey 1992, p. 590).

However implicit, what Harvey implies above, is that deconstruction and philosophies of difference, fail to come to terms with justice. But is deconstruction about making 'more jolly the shelters for homeless'? Moreover, what positionality suits such an ironic caricature of difference? As Harvey (1992, p. 591) explains 'we cannot understand events within and around the park or strategize as to its future uses without contextualizing it against a background of the political-economic transformations now occurring in urban life'. Historico-geographical materialism puts forward some key issues in solving urban problems like efficiency, economic growth, aesthetic and historical heritage, social and moral order, environmental issues, distributive justice and communitarian bonds, and is not merely 'celebrating difference'. What is required to take things further, Harvey (1992, p. 592) insists, is to 'provide the basis for consensus'.

Political-economic theories, however, not only provide a strategic plan in order to ‘solve urban problems’. Above all, in order to be justified, they require a solid definition of justice. Arguably, political economy does not invent justice, nor is it the only discourse that cares about people. Yet it needs and depends on justice. But justice depends on something altogether different. As Harvey (1992, p. 593) points out, there has to be some higher-order argument, ‘the phrase that was most frequently used to describe it was *social rationality*’. Having accepted the priority of some arguments, indeed the fact that some arguments are more valid than others, it comes as no surprise that consensus should be reached regarding a *just* planning.

But there are still problems in terms of the justification and legitimation of justice on rational grounds. For one thing because as the American political theorist John Rawls put it, the ‘rational is not always reasonable’. And yet for another because one is left with the impression that rationality exists and extends in a Cartesian way (*body vis-à-vis cogito*) beyond context, material practices and everyday life—which is particularly paradoxical from a materialist point of view; for example, it tends to ignore the fact that there are different forms of rationality in different times and spaces. Moreover, is not, for example, that conception a vicious circularity based on the *hysteron proteron* confusion? Is consensus required in order to decide whether a decision is rational (*let us all agree, this is rational*) or is rationality going to decide whether consensus will be reached on a certain issue (*this is rational let us all agree*)?

A way out of this labyrinthine structure is possible, once a rapprochement of Marxism and semiotics is taken seriously. It is to this effort that I now turn.

33.4 Social material semiotics

33.4.1 Bridging the gap

As the metaphysics of *economic value* of Marx goes hand in hand with the metaphysics of *linguistic value* of de Saussure, further supplanted by Harvey’s discourse on justice, many authors have reflected on the above problematization.

Epistemologically speaking, the *objectivist/subjectivist* dichotomy dominates the manner in which humanities and social sciences are seen and understood (Lagopoulos 1999). By means of the social spatial semiotics turn, however, it is still the case that social sciences and humanities need semiotics as much as they need Marxism and historical materialism, in order to offer a feasible way out of the current crisis (of episteme, economy, representation etc.; Lagopoulos and Boklund-Lagopoulou 1993).

As it was positioned, ‘the polarization between the materialist and the sociocultural approach that is between explanation of spatial organization by material or by ideological factors—in short what we called the objectivist and the subjectivist model in spatial studies—that became manifest with human ecology was to haunt spatial studies until today’ (Lagopoulos and Boklund-Lagopoulou 1993, p. 9).

Though integrating Marxism with semiotics is not an easy task, especially to the extent that it involves more than adding up some diverse and isolated parts of theories, the attempt is worth the wait. For Lagopoulos, this is necessary in order for Marxism to ‘analyze cultural phenomena’ (Lagopoulos and Boklund-Lagopoulou 1993, pp. 33, 35), beyond the *achrony* of semiotics (the study of meaning) and the reductionism of *materialism* (the study of history’s dynamism).

Admittedly, the abridgment between the two does not reproduce the original gap. Semiotics is not always about the study of culture; likewise, Marxism does not involve exclusively the study of history. Simplifying to a considerable extent, the meaning of the social semiotics of space (Lagopoulos and Boklund-Lagopoulou 1993, p. 43) maybe finally thought to one extent: that ‘cultural systems preserve a relative autonomy vis-à-vis material practices’ (Bauman 1973, 1998; Lagopoulos and Boklund-Lagopoulou 1993, p. 39).

The significance of the above, however, is not fully acknowledged unless a more substantive theory of culture is put forward—i.e. Lagopoulos’ intention to understand the conceptual construction of regional space through the concept of ‘*involvement region*’ (Lagopoulos and Boklund-Lagopoulou 1993, p. 102).

Put bluntly, the social spatial semiotics theorization offers another trope of *problematization*. Specifically, one that brings the *superstructural* element (meaning/semiotics) bearing upon the *basic* element (material practices/Marxism). The task of ‘*bridging the gap*’, however, needs not to follow an original division (*meaning and matter*) that uses *hierarchy* (the one over the other) and *dialectics* (synthesis: the one absorbed by the other), succumbing to the *metaphysical*, *rationalist* and *teleological* elements of value.

Remaining faithful to the *relative autonomy of cultural practices*, the sections that follow, therefore, offer a possible response, arguing that the *spatial/material* element (space and matter should not be taken necessarily as synonymous, though their meaning occasionally overlaps) is already present in discourses and meaning and that there is no practice or economy (or matter for that reason) that is not already ideological or cultural. The symptoms, to be found en route from the *metaphysics of value* to the *relative autonomy of culture*, take the following form: (a) Baudrillard’s (1996, 1998) theory (with respect to signs and consumption), (b) Derrida’s (1982, 1992) deconstruction (with respect to utility) and (c) Bauman’ (1997, 1998, 2000) social spacings (regarding consumption and the city). To discuss the consequences for the city, modern and postmodern, of unfolding the full meaning of these three points is the task of the last part of the chapter.

33.5 Even Signs Must Burn

33.5.1 Baudrillard

That consumption operates beyond the satisfaction of individual needs is how Baudrillard unfolds and unpacks the meaning of the systemic nature of consumption

and the transition from a *semiotic unit* of communication to a *sign-value unit* of meaning. As he points out, political economy speaks of productive forces, productivity, development, growth, equality and economic exchange, when it is itself a product of the same commodityfetishism it set out to demystify. For example, by ‘Failing to conceive of a mode of social wealth other than that founded on labour and production, Marxism no longer furnishes in the long run a real alternative to capitalism’ (Baudrillard 1975, p. 29).

This is because consumption involves, fundamentally, a *system* of objects. By implication, objects neither correspond with a given need nor simply signify and stand for the prestige and status of their master. In the terms Baudrillard employs, ‘Today objects are with us before they are earned [...] *their consumption precedes their production*’ (Baudrillard 1996, p. 159, italics in original). The object in the Baudrillardian oeuvre is a rational form spoken by a certain technological language (Baudrillard 1996, p. 5)—hence the meaning of sign value. In the light of this, objects constitute a *system*, and are no longer practically consumed or empirically experienced—as in the metaphysics of use value of Marx and Harvey. What they ‘embody is no longer the secret of a unique relationship, but rather, differences, and moves in a game’ (Baudrillard 1996, p. 21).

As Baudrillard (1996, p. 47, italics in original) explains ‘*this systematic connotation at the level of objects is what I am calling ATMOSPHERE*’.

Such is the radically different meaning Baudrillard’s theory (cf. Bataille 1985, 2001) conveys for consumption, which breaks with the mirror of production and the rationality, progress and teleology of labour with which the discourses of political economy usually associate objects and needs. No small wonder then that as Baudrillard (1996, p. 204) should argue ‘THERE ARE NO LIMITS TO CONSUMPTION’.

To that extent ‘consumer man never comes face to face with his own needs any more than with the specific product of his labour; nor is he ever confronted with his own image: *he is immanent in the signs he arranges*’ (Baudrillard 1998, p. 192, italics in original).

What needs further addressing, however, is the quest for *use value*. For Derrida, the only alternative theorization of value outside the metaphysical realm goes hand in hand with an understanding of the way in which a spectre operates.

33.6 Hauntology/Spectrology

33.6.1 Derrida

First of all mourning [for] One has to know. *One has to know it. One has to have knowledge* [...] Next, one cannot speak of generations of skulls or spirits [...] except on the condition of language [...] Finally [...] the thing *works* whether it transforms or it transforms itself, poses or decomposes itself: the spirit, ‘the spirit of the spirit’ is *work*. (Derrida 1994, p. 9)

On the basis of the above threefold reasoning, political economy is potentially useful, on condition that ‘what has been uttered “since Marx” can only promise or re-

mind one to maintain together, in a speech that defers, deferring not what it affirms but deferring just *so as to affirm*, to affirm *justly*, so as to have the power (a power without power) to affirm the coming of the event, its future-to-come itself' (Derrida 1994, p. 17). Having a future, but only by means of a promise that is yet to come and which at present is 'out of joint', is how Derrida thinks of political economy's relevance.

Never present as such, but always already trapped and worked out by way of a *double bind* (both/and), a spectre remains deeply 'out of joint'. The question, accordingly, is how just (*dike* in Greek) is such a spatial organization (recall here Harvey's rationalism on justice)? Is the statement 'the time is out of joint' relevant at all to the justice of and in space?

Heidegger interprets *dike* as 'joining, adjoining, adjustment, articulation of accord or harmony' (Derrida 1994, p. 23), while *adikia* 'to the contrary [...] is at once what is disjoined, undone, twisted and out of line, in the wrong of the unjust, or even in the error of stupidity' (Derrida 1994, p. 23). Justice in the light of the above is about 'the disjointure in the very presence of the present, this sort of non-contemporaneity of present time with itself (this radical untimeliness or this anachrony on the basis of which we are trying here to think the *ghost*)' (Derrida 1994, p. 25). Justice, in other words, is obliged to reckon, as opposed to Harvey's ambition, with the 'said and unsaid' of a *dike* which is always already beyond law and calculation 'over and above the market, above market, bargaining, thanking, commerce, and commodity' (Derrida 1994, p. 26).

Without taking into account and without reckoning with this spectre, justice is already caught up in the trap of reactionary politics (*an uncontextual rationality*). Once, however, it is acknowledged that there is no way to appeal or count for anything just unless it is *maybe both* a possible strategy of emancipation, **and** what restricts or prohibits its imminently revolutionary apprehension, the meaning of deconstruction and dissemination, becomes imperceptibly apparent. In the light of this impossibility, Derrida (1994, p. 31) speaks of difference. It is the condition of thought that cannot be dissociated from alterity, singularity and the irreducibility of spacing, involving as such 'a matter of linking an *affirmation* (in particular a political one), *if there is any*, to the experience of the impossible, which can only be a radical experience of the *perhaps*' (Derrida 1994, p. 35). If justice is meant to be in any true or radical sense revolutionary, therefore, it should retain something of an impossible *double bind* that does not hold onto a reserve. For being spectral means above all that

there are reasons to doubt this reassuring order of presents, and especially, the border between the present, the actual or present reality of the present, and everything that can be opposed to it: absence, non-presence, non-effectivity, inactuality, virtuality or even the simulacrum in general, and so forth. (Derrida 1994, p. 39)

Utility, on the face of this, is already a form, a fetish and a value, before it is an idea of a superstructural origin. As the commodity, according to Derrida is a strange creature, neither alive nor dead but that which has a chance of a certain autonomy (Derrida 1994, p. 152), being spectral, reminds something of the commodity fetish-

ism of Marx's political economy (Derrida 1994, p. 156); for example, the always already fetishized capitalist relations; i.e. what commodities would say if they could speak as Marx has famously suggested—though he never pushed such a conception to its logical conclusion—is that ‘our use-value may interest men, but it does not belong to us as objects. What does belong to us as objects, however, is our value [...] We relate to each other [...] merely as exchange values’ (Derrida 1994, p. 157).

One is tempted to ask, thus, when exactly utility was not already capitalized and commodified, that is, when it was not already a ghostly, spectral and spiritual ‘kind of being’ that recites differences? How is it possible for any usevalue to avoid spectrality? A more sophisticated approach regarding consumption, therefore, is required in order to go beyond the metaphysical conception of utility by way of its spatial reconfiguration.

33.7 Aesthetic, Moral and Cognitive Spacings

33.7.1 *Bauman*

A certain metaphysics of value, split in to a metaphysics of linguistic value and a metaphysics of economic value, needs considerable and careful reconstruction. Meanwhile, we have already started to unfold the importance of deconstructing this tradition with respect to Derrida's notion of *spectrology* and Baudrillard's theorization of the *system of objects*. In the middle of this effort, Derrida and Baudrillard were not alone. Bauman (1993a, b) offers an account by way of a similar deconstruction of the coupling of social and physical spaces that permits a useful unfolding of the manner in which consumption is socially produced and constituted by certain spatial arrangements. A limited version of Bauman's theory for the city, modern and postmodern, is now offered in association with his apt dissection of the sociogenesis of postmodernity and consumption. The chapter concludes offering some glimpses into Baudrillard's much contested notion of symbolic exchange.

All societies, Bauman (2001, 2003) suggests, drawing on Foucault's analysis, are based on the deployment of a certain type of power. The mode of reproduction of traditional societies, heavily dependent on a system of mutual trust, allowed the sustainability of the. That type of power, the sovereign type of power, as Foucault (1970, 1971, 1977) proposed, organized traditional societies in a manner that intervened from the outset by subtracting, for example, a part of the communal surplus, without, however, neither arranging the way the surplus was produced nor the means, methods and the time used for its production. The coupling of social and physical spacing in traditional societies did not require vigorous surveillance over the time, means and process of production. It was somehow ‘naturally’ imposed, though not accidentally, and was accomplished due to the ‘transparency’ of social spaces.

En route from traditional societies to modern societies, however, another form of power gradually emerged, which was considerably different to the type of power briefly discussed above. Of this modern regime of power, the *factory system* was a key and most recognizable feature, in which the modern subject was born and the new power meant to incarcerate and confine. Industrialism demanded that the ‘masterless men’ who had been somehow left unattended (for various demographic and economic reasons) had to work in order to be visible, useful and disciplined, maintaining the coordination and coupling of social and physical spaces as readable as it was in its traditional version. It is within such a transitional state of regimes of power, from traditional modes of reproduction to modern tropes of discipline and coercion, that Bauman (2007) situates the sociogenesis of industrial urbanism and class.

Due to the unprecedented demographic and urban expansion of the 1750s, a variety of social groups that were more often than not considered to be ‘dangerous’, ‘idle’ and ‘parasitic’ surged through the public spaces of many European towns. Vagabonds, beggars, drifters, poor and unemployed, having nothing better to do or nowhere else to go, were drifting and strolling from city to city. The self-enclosed ranks of the small communities were found, by and large, inadequate and unprepared to ‘keep an eye on’ these dangerous people. That social and spatial system, which time and again was becoming less and less relevant or useful in coming to terms with the needs of a highly expanding social body, had to be replaced by new techniques and methods of supervision and sociospatial control (Foucault 1980, 1990).

Another form of social power and spatial organization was required. Hence, the factory was invented as the most appropriate and most formidable social form that would rule over, train, educate and socialize the masses, and thus the great confinement began, of which the most eloquent analyst remains until now, Michel Foucault (Bauman 1982).

A dispute, however, caused trouble, given that the factory system was about to produce not only moral and spatial order but also products and goods to be traded and sold in the market. The craftsmen and the skilled labour found themselves useless or redundant as their jobs were taken by the hundreds of hands employed in and subjected to the factory labour. Craftsmen would still have to be subjected to the same training the factory system had already submitted the poor, yet their opposition and bargaining power, as it was expected, was by and large stronger than the resistance of the ‘dangerous classes’, given the formers’ more prestigious and higher social position.

Out of this negotiation, whose repercussions and turmoil are visible even in present days, among other things, emerged the practice of social class. Social class, a result of this *problematization* of the regime of power, is thus, but, an outcome of the transformation of social power from a traditional regime of self-reproduction to an industrial regime of panoptic and coercive orientation. Production, in other words, was not the aim per se. As Bauman, aptly, put it ‘Class was born of social conflict’ (Bauman 1982, p. 38). If the poor and the workingclasses were easily forced to work within the strict barriers of factories, the craftsmen had to be somehow gen-

erously compensated, in order to surrender the usual autonomy they had over the means of production. Money and market interest were the most convincing means reassuring that such a labour aristocracy would give up the freedom it usually enjoyed in the autarkic and transparent traditional societies. As Bauman (1982), p. 38) put it again, ‘In other words, the conflict, triggered by the attempt to extend over the skilled part of factory labour the disciplinary forces developed in dealing with the unskilled part (or the fear of such an extension), was displaced and shifted into the sphere of surplus distribution’.

By implication, then a similar transformation of the regime of social power takes place in contemporary societies. It turns consumption into a mode of domination rather than a eudemonic state of capitalism. And so the city is transformed from a collective unit of consumption to a site that stages aesthetic values and aesthetic spacing. As the communal bond of reproduction that was dominant in traditional forms of life was given over to and gradually replaced by industrialism and discipline, in a similar way, industrialism is now given over to and replaced by consumerism, which takes from where industrialism failed to further assure social integration and systemic reproduction.

This is why,

Consumerism is not about the emancipation of the body from control; it is about the joy of controlling the body of one’s own will, with the help of sophisticated products of technology which offer all the visibility of the formidable power of one’s controlling agency.

This is also why ‘The channeling of the initial power conflict into the sphere of distribution was based on the promise of greater levels of wealth, security and living standards: everything, in fact, except the autonomy in the productive sphere relinquished in this momentous exchange’ (Clarke 2003, p. 141). Consumerism was born, as Bauman, ultimately, avers ‘as a twice removed offshoot of the frustrated resistance against disciplinary power, which penetrated and finally conquered the field of productive activity’. Consumption is simply ‘the equivalent and the extension, in the twentieth century, of the great indoctrination of rural population into industrial labor, which occurred throughout the nineteenth century’ (Baudrillard 1998, p. 50).

33.8 Conclusion: Symbolic Exchange

If consumption (Baudeloire 1985) is destined to haunt the postmodern city, it is felt that a chapter that draws on Baudrillard’s and Bauman’s elaborations should have something to say about a possible resistance: the theoretical practice of symbolic exchange. I will briefly refer to symbolic exchange, therefore, but only as a means to conclude the theory presented above overcoming the problematic of the *metaphysics of value*.

Symbolic exchange, an ambivalent social practice based on the principles of reversibility, the counter-gift and the counter-offer, offers some potential in escaping

the vicious circularity of industrialism, consumerism and the city. As Baudrillard states, ‘the real rupture is not between “abstract” labour and “concrete” labour but between symbolic exchange and work (production, economics)’ (Baudrillard 1975, p. 45). So-called primitive societies know nothing of economic exchange. They only admit to ‘symbolic disorder [that] can bring about an interruption in the code’ (Baudrillard 1993a, b, c, p. 4). This is why Baudrillard should insist on ‘the inadequacy of the concepts of labour, production, productive force and relations of production in accounting for, let us say, pre-industrial organization’ (Baudrillard 1975, p. 101). This also explains why Baudrillard is suspicious of political economy. ‘Historical materialism [...] is incapable of thinking the process of ideology, of culture, of language, of the symbolic in general’ (Baudrillard 1975, p. 109).

In contemporary cities, production, labour and money have lost all finality constituting signs, phantoms and simulations without any referent and devoid of any meaning. It is no longer effective, therefore, to fight the system by way of the plane of the real, that is, by ‘direct, dialectical revolution of the economic or political infrastructure’ (Baudrillard 1993a, b, c, p. 36). The only superior challenge to capitalism would have to be ‘reversal, the incessant reversibility of the counter-gift and, conversely, the seizing of power by the unilateral exercise of the gift’ (Baudrillard 1993a, b, c, p. 36). Putting everything in symbolic terms, in other words, is what destroys the system, which in turn has to respond with a bigger challenge, which is exactly what labour fails to do, that is, to get to grips with such a powerful reversibility that will effectively abolish power relations. Labour constitutes a ‘slow death. This is generally understood in the sense of physical exhaustion. But it must be understood in another sense. Labour is not opposed, like a sort death, to the “fulfillment of life”, which is the idealist view; labour is opposed as a *slow death* to a violent death. That is the symbolic reality’ (Baudrillard 1993a, b, c, p. 39).

While in economic exchangevalue, the object finds meaning in relation to other objects ‘according to a hierarchical code of significations’ (Baudrillard 1981, p. 64), in symbolic exchange, the object has ‘neither use value nor (economic) exchange value’ (Baudrillard 1981, p. 64). Symbolic exchange ‘defines itself precisely as something distinct from and beyond value and code’ (Baudrillard 1981, p. 125). Needless to say, the symbolic breaks with equivalence, code, gift and signification insofar as its basic function is not to offer but to return. For ‘if no counter-gift or reciprocal exchange is possible we remain imprisoned in the structure of power and abstraction’ (Baudrillard 1981, p. 211). What destroys power relations is one single form: ‘reversibility, cyclical reversal and annulment put an end to the linearity of time, language, economic exchange, accumulation and power’ (Baudrillard 1993a, b, c, p. 2). The social forms and practices that pertain to symbolic exchange, however, cannot be totally and fully present in a metaphysical conception of being as presence. It is always a kind of ‘displacement’, a ‘detour by way of the signifier’ (Baudrillard 1993a, b, c, p. 140) that *takes place*. As the symbolic annuls every single duality and dual code of signification, ‘*It is the u-topia that puts an end to the topologies of the soul and the body, man and nature, the real and the non-real, birth and death*. In the symbolic operation, the two terms lose their reality’ (Baudrillard 1993a, b, c, p. 133, italics in original).

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Thanos Gkaragounis was born in Larissa, Greece, in 1977. He is a human geographer, has a masters in human geography (2001) and a masters in sociology (2002), both from Leeds University. He was awarded his Ph.D. diploma in human geography from Swansea University (2010). Since 2010, he has written variously on issues concerning space, the history and philosophy of human geography, the spatial thought of continental theorists such as Kant, Foucault and Derrida and the spatial ontology of Plato and Aristotle. He lives between Larissa and Patra, and shares many of his experiences with Dimitra.

Chapter 34

Musical Performance in a Semiotic Key

Lina Navickaitė-Martinelli

34.1 Introduction

In an attempt to expand and enrich the existing trends of musical performance studies, as well as exploit the potentials of semiotic analysis, this chapter aims at offering a few theoretical models that would enable analyzing and unfolding the multiple (musical, cultural, as well as social) meanings generated by and communicated through the performer's art. Such an approach may be considered as interdisciplinary. Without denying that musical performance, particularly that of Western classical music, is inevitably associated with the opus (the latter being an apparent priority for the mainstream musicological research), the semiotic approach, I propose, should invoke a broader viewpoint and study performance as encompassing all the extramusical, exogenic meanings that do not necessarily depend on a musical work. The claim is that musical phenomena are often not exclusively musical, hence it is meaningful to approach them in relation to a great variety of social, economic, and cultural factors.

Seeing it from a semiotic perspective, musical performance is understood as a communication model in which a series of coded messages are sent or enacted and their meanings received or decoded.¹ For example, in theatre or opera performance,

¹ It is to be pointed out, at this very stage, that this work, especially as purporting to be a semiotic study, presents no consistent disquisition on the topic of "reception" and "receivers" of performance. While fully acknowledging the importance of the issue, a relative lack of treatment of this subject is the practical result of a selection in focuses. The role of musical performance within a society, in relation to a musical work across epochs and places, and in the specific of distinct individual identities, is already too big a task for a single investigation. Moreover, it is obvious that a lot of information still needs to be captured already on the side of those who perform, even without going to the other side (i.e. that of the listener, not to mention the side of the composer as the primary element of the renown "composer—performer—listener" communication chain) as well. Finally, it is my conviction that a scholar, a musicologist, may or may not be a musician, or a

L. Navickaitė-Martinelli (✉)
Lithuanian Academy of Music and Theatre, Gedimino pr. 42, LT-01110 Vilnius, Lithuania
e-mail: lina.martinelli@lmta.lt

which have been for a long-time subject to semiotic analysis, the meaning is encoded and transmitted through the various systems of staging, such as set, lighting, costume, music, etc.² In addition, rich and complex significations are provided by the performers/actors themselves, their bodies, actions, and interpretive choices. All this can be said about the art of music performers as well, and, if we think of a musical performance as a mere actualization of a musical score, we obviously overlook (or, consciously deny) the potential density of its semiosis. Hence, one of the main assumptions in this chapter is that the art of musical performance may be analyzed by concentrating on the figure of classical music performer as a significant part of cultural life, and that musical performance practices can be approached by not necessarily focusing on the relation between musical work and its interpretation. Rather, it is proposed, it is possible, if not necessary, to take into account all kinds of cultural phenomena, the various media through which the art of music performance is operated, and the different types of performer-listener communication processes.

Curiously enough, the theoreticians who helped laying the foundations of the leading paradigms and schools of general semiotics showed a surprisingly poor interest in music, regularly failing to use it as a case study. When one reviews the works of the so-called American school (based on the writings by Charles Sanders Peirce), or the Paris, or structuralist, school (founded by Algirdas Julius Greimas on a path already traced by Claude Lévi-Strauss), one finds that none of these great figures had music in their agenda. Neither did Yuri M. Lotman, the founder of the Tartu-Moscow school, nor Umberto Eco (perhaps the greatest living star of semiotics), who, incidentally, is also a keen clarinet player.³ Curiously, the lack of interest in music did not coincide with a lack of interest in performance as such, except that the focus would mainly be *theatre*, not music, performance. Such inclination to theatre studies went even as far as to allow considering some prominent schools of semiotics the very environment that gave rise to theatre semiotics (e.g., the Prague School of semiotics as early as the 1920s, as well as other European theorists, including later ones like Lotman, Eco or Marco De Marinis). Among the few scholars to have an eye for the musical question within semiotics, Roland Barthes is to be mentioned, who, more importantly for our purposes, also wrote specifically on musical performance.⁴

composer, but she/he is *always* a receiver, a listener of musical phenomena. Hence, a musicological research, regardless of the topic, can only avoid conceptualizing the notion of musical receiver, but can never avoid displaying its perspective and projections of the events described.

² As Aston (1996, p. 57) points out, this was mostly the emphasis of the early works in the field of theater semiotics, while a more recent phase of the semiotic theater study rather focuses on the decodifying activities of the receiver (spectator), starting already from the spectator's preexpectations of the theatrical event; this perspective is mentioned below as a strong influence on the listener's perception of a musical performance, whether live or recorded.

³ Even more significantly, Umberto Eco did actually deal with music-related problem, but that was in his presemiotic scholarly phase, during the 1960s (Eco 1964, for instance, having a whole section on the subject, and being, in its days, in the thick of the discussion on popular music in Italy).

⁴ Eero Tarasti's past decades of activity, plus his status as internationally acknowledged semiotician, makes him a "general semiotician" too, not only a representative of musical semiotics, there-

In the meanwhile, scholars who specialized in musical semiotics (such as Jean-Jacques Nattiez, Gino Stefani, Eero Tarasti, and many others) produced a rich and very original amount of literature that certainly contributed to rethink (when not redefine) a number of musical phenomena and practices, including performance (although not in such a consistent quantity as other topics). At the same time, they referred to major theories from general semioticians, applying them to their own field of study. Thus, there also exist a few applications of semiotic theories to musical performance: one of the goals of this text is to take a closer look at some of them. The aim is to present an original body of theoretical reflections based on existing models in general semiotics, and particularly adapted to the case of musical performance. Some of these will be indeed mere adaptations, but, in a couple of instances, certain reelaboration of the existing material, as well as novel proposals, will be necessary. Not accidentally, some parts of the models presented and the issues discussed overlap, thus emphasizing a common guideline proposed for the performance studies.

34.2 Semiotic Identity of a Performer: Endo- and Exo-Signs in the Art of Interpreting Music

The process of musical semiosis, also in the art of musical performance, is affected by many cultural, social, and psychological factors. Artistic identity, interpretative choices, and mental and physical selfhood of a performer are determined by various circumstances such as natural qualities, personal background, constraints of a particular tradition, and stylistic requirements of a musical work, among others. In the present section of the chapter, the existential-semiotics approach to the study of musical performance art is offered. In addition, an attempt shall be made to reveal that the analysis of numerous both specifically performance concerned as well as sociocultural issues may be significantly expanded and enriched by approaching them from the semiotic perspective. Certain key concepts in semiotics well function and continue to be increasingly employed in the performance-related musicological research. In particular, the concepts that can be considered as a potential broadening of the discourses on music performance practices and the new meanings created by them, are those of semiotic subject, the artistic *Umwelt*⁵, or the examination of semiotic self, whereas the theoretical models in the next sections are meant to discuss the relation between the performance and the work, the one to appear below

fore, worth of inclusion in this list. Yet, his situation is a bit peculiar, having him started explicitly within the field of musical semiotics: hence, my choice to discuss Tarasti's work in the company of Stefani and Nattiez.

⁵ The concept *Umwelt* belongs to an Estonian-German biologist Jakob von Uexküll, it was also widely used in the work of Thomas A. Sebeok and Martin Heidegger. *Umwelt* is seen as a semiotic world of any organism (as the concept was conceived in the field of biology and biosemiotics), which encompasses any aspects of the surrounding environment that have meaning to that very organism. Significantly, while interacting with the environment, the organism is constantly recreating and transforming its *Umwelt*.

is concerned, if one may say so, with the performer's relation to the performance itself. In short, the issue of performer's subjectivity shall be discussed herein.

Several authors in the field of semiotics have been dealing with the concept of semiotic self,⁶ which consists usually of two aspects: an inward and outward side within the subject. Among these dualities, we have, for instance, the "I" (self as such) and "Me" ("I" in the social context), as used by George Herbert Mead; *Moi* and *Soi* by the French authors (Ricoeur, Sartre, and Fontanille use these concepts in their writings); controlling, deeper self versus critical self by Charles S. Peirce; or the Bergsonian differentiation between the "superficial" and the "deep" ego.

Specifically in the domain of semiotics of performing music, Naomi Cumming, who has offered profound reflections upon what might constitute a performer's identity, talks in this context—again—about "an outward and inward face." On the outward side, Cumming sees the perceptible result of an individual's patterned choices within a social domain, those characteristic manners of forming sound or gesture that distinguish him or her from the "crowd"—a personal "style" (Cumming 2000, p. 10). Perceiving the selfhood as an intrinsically social, interactive, and mobile experience, she writes:

[...] It is when I become aware of the 'outward' face of my musical identity, as a pattern of actions, that I can begin to question how I am constrained in my performance. What is the ideology that governs me? What is the domain of my choice? How free am I? These are musical questions, and yet they are an allegory of broader questions about the expressivity of social life. Noticing those sounds I "cannot" make, I begin to gain awareness of those scarcely articulate "beliefs" that present themselves as inhibitions to a convincing performance of a work. I see that my musical inhibitions and social ones are not entirely unconnected. The "outward" identity, of choices audible in sound, reflects a pattern of belief, desire, and inhibition that constitutes an "inner self"—what it is to be "me". (Cumming 2000, p. 11)

In the present study, the concept of semiotic self is applied to the analysis of the balance between subjectivity and culturally determined standards in the art of musical performance. Approaching the art from semiotic perspective, we assume that each interpreter of music has one or several characteristic features, a kind of "semantic gesture,"⁷ which dominates his or her interpretation and distinguishes it from other performances. However, having his/her immanent personal qualities, one is nevertheless significantly influenced by all the social and cultural background that is forming a social identity of an artist. Moreover, a person can accept only some certain parts of the environmental norms, and refuse, or resist, the others.⁸ Hence, the continual dialogue is established. Consequently, the semiotic model developed in the present section combines both: the inner self and the outward identity, the spheres of a performer's *Moi* and *Soi*, the individual and collective subjectivities. On the basis of what has been said so far, we shall speak below of two kinds of

⁶ Originally introduced by Sebeok back in 1979.

⁷ This broad and miscellaneous concept is used here rather freely. The term "semantic gesture" belongs to the main figure of the Prague structuralism, Jan Mukařovský, and denotes (in the analysis of the individual aspects of a literary work) the uniqueness and entity of a literary sign.

⁸ For more on this topic, see Tarasti's reflections on semiotics of resistance, in Tarasti 2009.

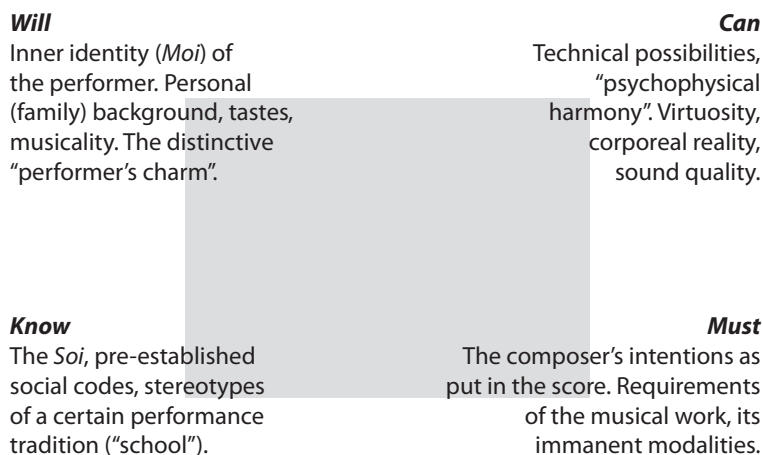


Fig.34.1 Individuality and standards in the art of a performer (after Eero Tarasti’s theory of subjectivity)

signs: endo- and exo-signs, inner and outer characteristic features that dominate one’s interpretative choices and constitute a semiotic identity of a performer.

In order to provide these reflections with a somewhat more structured shape, a semiotic model is employed here, which serves as an illustration of the inner and outer influences, individuality and standards underlying the creative work of a performer. The scheme in Fig. 34.1 is elaborated from Eero Tarasti’s semiotic square⁹ of performer’s subjectivity and his four logical cases in the light of Hegel and Fontanille.¹⁰ The way I see it, the *Moi* side of the performer’s self is intrinsically related to the Greimassian internal (endogenic) modalities Will and Can, while the *Soi* part of one’s identity is reflected by the external (exogenic) modalities Know and Must, thus encompassing all the spheres and categories through and in which the performer’s art is communicated.

1. Greimassian modality of “Will”¹¹ corresponds here to an inner identity (*Moi*) of a performer. This part might include a personal (family) background, artis-

⁹ Due to its wide usage and familiarity, here, the semiotic square is employed merely as a schematized illustration, without its further theoretical explications.

¹⁰ For a broader explanation of these philosophical and semiotic concepts, cf. Tarasti (2000, 2005, and 2012).

¹¹ Modalities of Will (*vouloir*), Can (*pouvoir*), Know (*savoir*), and Must (*devoir*), offered by Greimas in the field of linguistics, were for the first time applied in musicology by Eero Tarasti. Modalities provide music with the semantic meaning. In that they can be *endogenic*, i.e., inherent to the immanent meanings of the music, or *exogenic*, that is, “activated” from outside depending on how the music is interpreted and performed. While talking about the composer’s work, Tarasti explains the modality of “Will” as follows: *vouloir* appears in, say, Beethoven’s sonata in those episodes where the composer is particularly heroic, that is, the way he wants to be (here and below—from Tarasti’s Musical Semiotics seminars at the University of Helsinki, 2005).

tic tastes or religiousness if any. It also encompasses the person's musicality, together with a distinctive "performer's charm," or charisma.

2. "Can"¹² embraces the performer's technical capabilities, "psychophysical harmony." Virtuosity, corporeal reality, and a certain quality of sound, realized in performance, are also included here.
3. "Know,"¹³ or the *Soi* of a performer, consists of preestablished social codes, stereotypes of the given performance tradition ("school"); usually, manners of playing are rated according to certain standard criteria, with some adjudged better than others.
4. "Must"¹⁴ means the composer's intentions as put in the score, the work's immanent modalities. It is something called out by the requirements of a musical work—the subjective potentialities of its style, without which the work could not "live."

The present model has already been applied to several contexts of musical performance analysis, such as the concept of "school" (cf. Navickaitė-Martinelli 2009), the impact of sound-recording technologies to the art of musical performance (2010), and performer's corporeal identity (2008). Admittedly, it comes handy when one needs to conceptualize in a structured manner even the most complex phenomena of musical performance art and their development. Omitting its further specifications, and with the aim of deepening the theoretical aspect of a semiotic investigation of musical performance, below in this text, we shall elaborate on Gino Stefani's theory of musical competence in relation to musical performance.

34.3 Gino Stefani's Theory of Musical Competence as Applied to the Study of Musical Performance

In Gino Stefani's model, it is argued that musical competence exists at various levels, not only the "strictly musical" or the "musical expert" ones, and that it intervenes in the construction of any discourse around music: from casual listening practices to professional composition. This model was generated as a result of Stefani's conviction (repeated in several occasions, starting from Stefani 1976) that music should not be studied *in se*, but rather

[...] in the most comprehensible of ways, without excluding anything, and at the same time paying attention to the heterogeneity of the diverse musical experiences, practices and ideas. Given this assumption, the principle is: the musical *sense* is extended over a space

¹² "Can" is an inner force, the possibility to express one's "Will." In composition, that would be the author's creative power, compositional ideas.

¹³ "Know," in composition, means how the composer masters his/her compositional technique, and how well he/she is capable of employing the knowledge (of certain rules, for instance) while composing.

¹⁴ "Must" is the genre-determined and other rules, norms, etc. that the composer must follow in his work.

that goes from the most general human experience to the most specifically artistic one. (Stefani 1999, p. 15)¹⁵

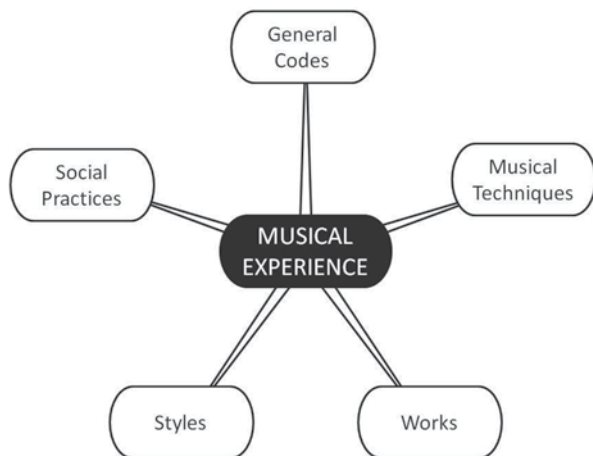
Stefani specifically points out that several human categories can construct musical sense. The intention is to provide at the same time for (a) the existence of several forms of appropriation on the musical phenomenon and (b) the theoretical importance of each of these forms, refusing, for instance, to ignore very general aspects that a traditional musicologist would probably label as secondary or irrelevant. According to Stefani, indeed, any typology of *user* of the musical phenomenon (from the so-called amateur to the so-called expert, from the listener to the performer, etc.) has a certain musical competence, different from each other but all the way useful for analytical purposes, exactly because it constructs one of the many possible discourses. It is possible to set a similar target with musical performance. The actual goal, following Stefani, “is not properly music, but *musical experience* in its entirety, before any articulation and a distinction between subject and object. [...] Within a semiotic perspective, experience is a production of sense *on* and *with* music” (Stefani 2009, p. 19).

The idea of “musical competence” that was hinted within (ethno)musicology by the likes of John Blacking (1973) and was already circulating in linguistics (e.g., Ruwet 1972) and semiotics (e.g., Eco 1964) was developed by Stefani into a recognizable model that indeed encompasses all such processes and gestures. Musical competence, argues Stefani, is articulated on five levels, that is, the so-called *general codes*, *social practices*, *musical techniques*, *styles*, and *works*.¹⁶ It is important to underline (and that is particularly applicable to performance) that these levels do not work in isolation, but are in fact complementary to each other, and coexisting in various shapes and forms. There is no such a thing as a performance *exclusively* based on, say, social practices, without taking into consideration the other four levels. Situations like this exist only theoretically: what is more realistic (and shall be offered in my examples) is to spot those cases where one of the five levels *dominates* over the others, or at least emerges more distinctively. Stefani himself (1985, pp. 93–100) offers several possible ways to read his model (five schemes and a total of 13 applications of them), and in all cases the interpenetration of each element is a primary feature. Without going deeply into the details of these schemes, we can perhaps pick the fifth one as representative of the way I intend to apply Stefani’s model into research on musical performance (see Fig. 34.2). In it, “the five levels

¹⁵ Given that the majority of Stefani’s early works, including his most important accounts on musical competence, have not been available in English so far, the Italian originals were consulted for the purposes of this study. I am grateful to Dario Martinelli for his competent assistance in providing accurate English translations to the passages cited herein.

¹⁶ In order to clarify the correct placement of all the keywords in my argument, it is perhaps necessary to specify that the first step is the musical *experience* (i.e., the meeting between a subject and an object: say, a performer touching the piano), which generates a musical *sense* (of different types: an emotional response, a musicological evaluation, etc.), which in turn is organized into a musical *competence* (i.e., one or more of Stefani’s levels), and which ultimately is manifested and shared in musical *discourses*.

Fig. 34.2 Scheme 5 in Stefani's model of musical competence (Stefani 1985)



are equidistant and topologically equivalent in relation to an ideal central point [such point being the musical experience]" (Stefani 1985, p. 97).

With this in mind, I shall try to illustrate the model in relation to Stefani's original formulation and to some possible application within the field of piano performance (the latter, as previously mentioned, being picked among those instances where one level is more tangible than the other four):

1. *General codes*: Stefani defines them as "sensorial-perceptive schemes (spatial, tactile, dynamic, kinetic, etc.)" and "logical schemes, that is, mental processes of simple or complex nature" (Stefani 1985, p. 86). Some aspects in the musical experience (and therefore, in performance too) pertain to the bio-anthropological nature of the subject, and, as such, have a universal component: general codes investigate an area of musical discourse that transcend cultures and rather typify the subject as, quite simply, a human being. The performer plays, and while she/he plays an array of extramusical processes more often studied and interpreted by kinesics and proxemics than by musicology (such as nonverbal communication by the performer, facial expressions, muscular tone, etc.), take place. Such processes are not music, and yet they are part of it, and it is virtually impossible to separate them from other manifestations of performance (e.g., following the score) that are commonly considered more intrinsically musical. When we think of piano performance, there are even cases where the extramusical processes are so prominent that they are liable to being criticized for getting in the way of music itself, and ultimately damaging the purity of the performance. One of the most prominent cases is Keith Jarrett's unusual postures, body movements, and—perhaps most disturbingly—vocalizations:

Critical accounts of Jarrett's pianism set up a hierarchical opposition between a pure acoustic signal from the piano and the adulterated sound resulting once the human voice is superimposed. An intruder, the voice is perceived as a separate layer, or, as the critic Owen Cordle puts it, "a singing over." Here the preposition "over"—with its attendant spatial connotations—constitutes no empty journalistic jargon. Rather, it suggests the existence

of an ideal space, the sound of the piano, that can and, in the critics' opinion, should be contemplated without interference. Their position is predicated on the concept that improvisational creation is an internal process of which the piano constitutes its most intimate (i.e., authentic) expression. We may call this internal process cognitive or imaginative. (Moreno 1999, p. 77)

However radical this instance may appear (it is indeed my intention to provide here examples that *stand out*, in terms of their focus on each of Stefani's levels), it is clear that the traditional critic perceives the existence of a gap between the strictly musical "pace" and any other space (vocal and corporeal, in this case), while it is very obvious that such pianists as Jarrett (or, to make another famous example, Glenn Gould, with his hums and conductor's gestures) do not see a separation between the traditionally musical gesture and other forms of *performance*. In actual fact, the gap does not exist altogether, even in cases where corporeal participation is much less ostentatious than Jarrett or Gould, simply because it is an essential part of the performer, who—evidently—cannot transcend his/her biology just because she/he is playing music.¹⁷

Jarrett, moreover, is a perfect case to explain what Stefani means by "sensorial-perceptive" and "logical" schemes, since, according to above-quoted Jairo Moreno, his vocalizations constitute a connection between the two categories:

What are we then to make of Jarrett's "singing" musical lines simultaneously with the piano? I believe that by this procedure he reveals the presence of a conscious thought process. He makes explicit the fact that imagining sound and structuring it around the chord progressions and melodies of the songs he improvises on entails embodying it in mind, soul, and body (here, body signifies the voice). The sound of his voice unleashes what in the critics' minds should be a metaphysical presence. (Moreno 1999, p. 79)

2. *Social practices*: "The production of musical sense occurs through codes that stem from social practices. It is due to this that the beginning of a classical piece may be constructed/perceived as a ceremonial entrance or the beginning of a speech; that the articulation of a melody may remind of a spoken utterance [...]; that so many rhythms and meters in music recall similar patterns in poetry or dance; and so forth. It is within this network of sense that one ends up constructing, more or less systematically, the relations among the different practices of a society" (Stefani 1985, p. 87). In other words, working on the level of social practices means working on different forms of cultural discourse in music. Needless to say, an important component in music is its social significance, and obviously this applies to the particular case of musical performance, too. A performer's choices, attitude, and approach to interpretation, may and do say something about the community/communities she/he belongs/refers/addresses to, with their habits, values, dynamics, and myths. An appropriate example is

¹⁷ I would also mention a Finnish pianist Oli Mustonen among such examples. Mustonen has been repeatedly, and very harshly, criticized for his overemphasized gestures while playing. However, disturbing or not-always-pertinent those gestures may be, it is rather evident to me, as a listener and concert goer, that a person like Mustonen cannot in fact control or suppress his corporeal identity while onstage.

that of national identities. National schools in piano interpretation is a subject I have tackled on several occasions (including the level “styles” on this model), but apart from developing specific stylistic orientations as a result of national traditions in teaching and playing, performers may also display other dimensions of national identity that have more to do with the identity as such, in the cultural, geographical, social, and historical senses. The question (not only in relation to musical performance, of course) was brought to brand new attention in postcolonialist studies, in innumerable cases.

3. *Musical techniques*: This level includes “theories, methods, procedures that are specific and (sometime) exclusive of music-making (instruments, scales, compositional forms, etc.)” (Stefani 1999, p. 15). In other words, we are facing music as an idiom provided with its syntax, its grammar, and, in general, its rules. These are of course many and of the most varied nature (qualities, parameters, and typologies), which is why Stefani considers this level the most “heterogeneous” of the whole model (cf. *ibid.*, p. 18). To an extent, the technical aspects of music constitute the most typical type of discourse occurring among professional performers and/or scholars:¹⁸ it certainly is the most typical discourse stemming from the traditional notion of musical interpretation, where the focal (and sometimes exclusive) point seems to be such aspects as dynamic indications in a score, sound differences between one instrument and another, the presence/absence/necessity of embellishments, etc. As such, this level, probably does not require a great degree of exemplification. We are familiar with such notions as “virtuosity,” and its changes in perception over history (from the superstardom of virtuosos in the nineteenth century to nowadays’ idea of virtuosity as a compulsory requirement for a performer); we know of pianists obsessed with a particular instrument (refusing to play on anything else, even of the same model/brand); we know of peculiar technical expedients that ended up being very fashionable among performers (such as Gould’s trademark *non legato* interpretations of Bach, which influenced entire generations of pianists), and so forth.
4. *Styles*: A style, says Stefani, is “a set of formal-technical characteristics that shape musical objects and events in relation to a given epoch, environment, person; and by consequence trace—in music—agents, processes and contexts of production” (Stefani 1999, p. 19). This is the level of discourse rooted in between musical techniques (in that it is primarily forged by them) and the specific details about a particular opus (which are consequent to it). Belong to this area, the discussion on performance techniques of a particular historical period, or geographical area (e.g., the notion of school, not anymore in cultural sense, but in specifically stylistic terms), or even a composer in terms of his/her whole repertoire (finding thus certain constants in the way he/she wants his/her music to be performed).

¹⁸ Although Stefani himself warns that it would be a wrong assumption to think that *only* professionals possess a competence based on this level. The average music lover can also be “acculturized” in musical techniques, although not necessarily “alphabetized” in them, as the professional obviously is (cf. Stefani 1999, pp. 18–19).

In the specific of our topic, and similarly to Musical Techniques, there is no doubt that styles receive the attention of the most common (and/or traditional) discourses on musical performance. Styles are recognizable at least as “individual” units (e.g., when a performer possesses a style that can be clearly recognized as his/her own), “collective” units (e.g., when the imprinting of a school emerges), and “intertextual” units (i.e., in the degree of *dialogue* established with the composition and the composer’s will—an aspect that shall be deepened in the next level of the model). In the vast majority of the cases, a style is a combination of such units. Such an exuberant personality as Ivo Pogorelich is certainly recognizable as *individual unit* (a league of his own, for better or for worse), yet the enormous influence exercised by his teacher (and later wife) Aliza Kezeradze and the Liszt-Siloti school has always been acknowledged (by himself, first of all) as integral part of his musicianship.

5. *Works*: This level focuses on performance techniques that are typical and specific of a given opus in itself and as distinguished from other works of the same author/historical period/genre, etc. With his definition of this type of competence, based on the “repetition and reproduction of an identity,” (Stefani 1985, p. 92) and most of all his slightly iconoclast comment to it (“this is normally the lowest degree of sense production,” *ibid*), Stefani already hints the problemat�city of this level, when it comes to musical performance. If general codes and social practices are topics that performance studies (and many other fields of inquiry in musicology) are increasingly interested in including in their paradigm; and if musical techniques and styles are the most easily recognizable territories for any discussion around performance, that of works remains the most ambivalent issue, and the cause for the most animated debates. What is the actual relationship between composers and performers, and between opus and performance? The fact itself that the various definitions of “performance” oscillate among a variety of meanings that include “interpretation,” “recreation,” “translation,” “delivery,” “execution,” and “mediation” is only one of the many instances of this ambivalence.

At any rate, the relation of performance and the work is the issue too broad for the purposes of this chapter, and definitely deserves a discussion on its own. It is, however, to be repeated that I do not consider this the main target of performance-oriented research, and I in fact make a specific point in exploring aspects of performance that all in all transcend the work. My goal, in this particular context, is not to contribute to the debate, but rather to matter-of-factly frame the problem for the purposes of the illustration of Stefani’s model. With that in mind, the level of works certainly constitutes the environment where performer and composer are most closely connected. Pertinent to this form of competence are the specific indications (or lack thereof) that a work offers for a performer; the degree of autonomy/freedom that a performer is given (or decides to take) in executing a given work; the special bond that may be established between a particular repertoire and a particular performer (e.g., when a composer writes with a specific performer in mind, or when—centuries after the work was written—a given performer delivers the “ultimate” version of it, i.e., it becomes “canonic”); the limitations or the extensions

of the work in relation to a performative space (e.g., Ravel's Piano Concerto for the Left Hand in D major, or several contemporary works that require the playing of unusual parts of the piano), etc.

34.4 A Theoretical Model for Semiotic Analysis of Musical Performance

Departing from the above-mentioned Stefani's model, and setting the aim to develop a semiotic theory of musical performance, what follows is an attempt to present yet another possible model for such an analysis. As already could be detected from the previous considerations, a semiotic performance analysis presupposes a wide range of issues to be addressed, including the social context of the performance, the nature of the interpretation itself, the performer's intentions as well as the composer's directions, and the listener's experiences. This very model below, however, first and foremost is designed in order to provide an answer to a question like this: When we encounter a musical performance in any concert of nowadays' Western musical culture, or from the sound and/or video recordings, what meanings are being communicated—produced and received—there?¹⁹

How, then, does the semiotic approach contribute to a deeper understanding of the art of musical performance? To start with, while dealing with musical performance (and here I consciously avoid the term “hearing,” because there are multiple channels of perception involved in this case), a semiotic study should be able to extract and distinguish those semantic and pragmatic elements that stem from the musical work itself from those deriving from the performer's input. Accordingly, it should be possible to extract the meanings emerging from the opus *in se*, that is, the modalities of the musical work; the meanings produced by the performance—for instance, how a performer modalizes the piece, what kinds of effort produce certain new significations; and the elements that operate in the activity of a performer as cultural figure.

By employing the stylized Greimassian square (Fig. 34.3) and taking into account the above-mentioned considerations on musical performance, we may posit four types of logical relations between performance and musical work: P–W, P–Non-W, Non-P–W, and Non-P–Non-W.

1. Within the duality Performance-Work,²⁰ we can trace the combined or shared elements. Those are signs that stem from both the performance and the work;

¹⁹ This model has been presented by the author as part of a conference paper “‘Creative Lying’ and other ways to signify: On Music Performance as a Creative Process’ at the International Conference on The Embodiment of Authority (Sibelius Academy in Helsinki, September 2010), which is now available in the form of publication, see Navickaitė-Martinelli (2011).

²⁰ A somewhat reductionist concept of the “work” employed herein, primarily as denoting the message coded by the composer, is admittedly problematic. As we see from numerous examples, musical semioticians present a much more holistic vision of music and consider the work as something

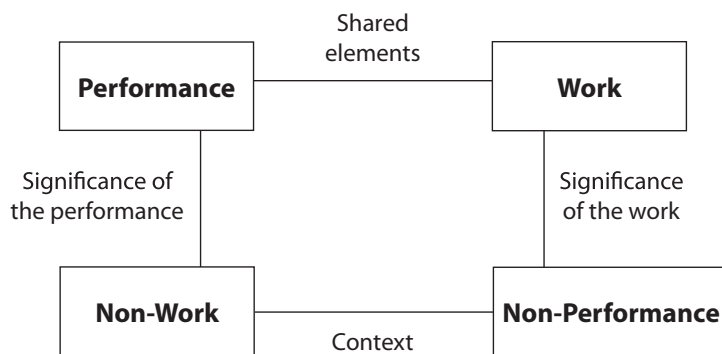


Fig. 34.3 Four types of logical relations between performance and musical work

they are produced out of the interaction between composer, score, and performer. For instance, among many other things, a certain type of gesturality is determined by the piece and realized by a performer.²¹ In contemporary music, there are rather many types of compositional practice which presuppose a very tight collaboration between a composer and a performer, or even require from the latter a particularly imaginative input. Such techniques as aleatory or graphic notation can go so far in this direction that it becomes not very clear anymore whether we are still in the Performance-Work field, or it is the performer who becomes the primary author of the piece.

An interesting situation, which should also be ascribed to this realm, is when a composer develops a close relation with a particular performer, and their collaboration brings forth new artistic fruit. To mention only some recent instances in music history, one may remember the artistic tandems of Luciano Berio and Cathy Berberian,

encompassing creation, interpretation and perception; also philosophers (such as Ingarden 1986; Goodman 1968; Kivy 1993, among others) have been pondering upon this issue, often coming to the conclusion that the work is a changing entity; even in traditional musicology it has been stated that “fixing a musical work through notation is not sufficient for constructing the notion of a work” (Dahlhaus, quoted in Nattiez 1990, p. 70); however, in conventional musicological analysis, the musical work may often be reduced to its structural, written-down properties. Hence, for the sake of the model’s simplicity, I find it reasonable limiting the meaning of the “work” concept to its score-based elements and using these two terms as equivalent to each other, since in most cases the score is our only source as to what the work is, and especially because in Western art music it is after all the score that guarantees the work’s identity through its multiple sonorous realizations. I shall sum-up the issue with Nattiez’s claim that “in the Western tradition, the thing that ensues from the composer’s creative act is the score; the score is the thing that renders the work performable and recognizable as an entity, and enables the work to pass through the centuries” (ibid, p. 71).

²¹ This type of performer’s signification, the ‘composed gestures’ that are embedded in the score and actualized by a performer, is thoroughly discussed by Marjaana Virtanen in her doctoral dissertation *Musical Works in the Making: Verbal and Gestural Negotiation in Rehearsals and Performances of Einojuhani Rautavaara’s Piano Concerti* (University of Turku, 2007).

Alfred Schnittke and Gidon Kremer or, expanding the boundaries of the genre, John Cage and Merce Cunningham.

Also belonging to this category of relations are certain prevailing stylistic requirements, standardized performances, and performance clichés related to the creative output of a certain composer. A musical work from the past, before reaching our days, accumulates, in addition to its own implicate meanings, all the performance traditions. A student who begins learning a Beethoven sonata cannot approach it without the passionate-dramatic cliché of its previous performances, in the same way as the soft melancholic Chopin reaches us not only from his scores but also from the already existing recordings.

2. Relation Performance-Non-Work has to do with significations that are purely due to the performer: his/her personal characteristics, creative individuality, corporeality, imagination, etc. It is the above-mentioned semantic gesture which prevails in all the interpretations by this performer and permits him or her to be distinguished from other musicians. Some aspects belonging to this realm might be called the “performer’s theater”: emotions conveyed onstage, bodily signs, as well as creation of setting, tension, and atmosphere. Some artists, surely, have more to offer in this respect than others. A study of, for instance, Glenn Gould’s creativity, writings on music, media work, physicality, psychology, and ideology can be conducted without even opening a score of the pieces the pianist has been performing.
3. Work–Non-Performance: Significance that is purely due to the work. These are requirements determined explicitly by the score (which, I would claim, are rather a tiny part of the whole process). Besides the short remark above, I do not intend to venture in this text into a philosophical discussion about what a musical work is, and how little or much of it can we perceive from the musical notation. Even when ascribing the work’s primary signification to its notated structure, there are some aspects of the score that can be approached with various levels of flexibility by a performer, such as, for example, tempo and dynamics. In current Western music performance practice, it is normally only pitches, and perhaps durations and rhythms, that are followed with exactitude. It follows from this that even certain, more or less precise, requirements of the score might be placed in the first (rather than the third) block of relations, that is, Performance-Work: let us remember the practice of Baroque ornamentation, for instance, which clearly illustrates that certain elements belong to certain areas depending on the common agreements of a given culture.

Here, some examples shall be mentioned about the situations in which the composer’s requirements are so strict that there is no ground at all for a performer to input his own creativity. First and foremost, that applies to tape compositions (computer performance is, after all, a *performance*), but not only—most of serialist works, for instance, provided performers with particularly rigid constructions and exact performance parameters, with no or very little room for interpretation. However, even in “mainstream” performance practices, certain composers, especially in the beginning of the twentieth century (Stravinsky and Ravel come first to mind, but by no

means were they the only ones of their kind), were profoundly hostile to the idea of performative freedom, and required performers to faithfully reproduce their work.

4. Non-Work–Non-Performance. To this side of relations belonging to context-related or even ideological matters, such as romanticized performance, *Werk-treue* ideal, requirements of the authenticity movement, etc. It is to be noted that any performance is culturally and socially mediated; that is to say, no performance, be it a live concert, a recording or any other representation, exists on its own, isolated from the surrounding culture. If what we have discussed so far is a *performance-as-text* (where text is purely “musical” action: performance and/or musical work), here we enter the realm of *performance-as-paratext*. This includes, for instance, those sociocultural elements surrounding the text that normally support one’s comprehension of it, offering clues, alternative interpretations, etc., while not being the musical action itself. Such sociocultural matters as notions of schools and traditions, styles and identities, repertoire choices, competitions, various media types, marketing, image constructing, verbal communication of and about the performers; all these constitute a significant part of the phenomenon of musical performance.²²

It is relevant to point out that all these aspects are, surely, interrelated. As in many other cases, it is impossible to have only four sharp angles and no gray areas in which several of the elements can fit. For instance, to name just one of such points, the relation to the instrument, which is considered an extension of one’s body in musical anthropology, is a very important corporeal experience to a performer, thus, it can easily be placed in the P–NonW realm and there are many aspects of this relation to discuss. However, an instrument might also have an important sociological if not ideological role, especially in the case of piano, say, in the nineteenth century,²³ and as such the aspect of instrumentation can be ascribed to the NonW–NonP field of the aforementioned semiotic relations.

In addition to this, it is in the nature of the work–performance relation itself to exist as a multifaceted dialogue. Any of the four combinations suggested may be *dominant*, but hardly *isolated*. In other words, if it is true that Glenn Gould’s renditions of Mozart’s sonatas or Brahms’ Piano Concerto No. 1, due to the whole philosophy behind those performances, qualify first and foremost as a “Performance–Non-Work” affair, it is also true that they are not totally independent from the other three corners of the square. However, for instance, the relatively “obedient” treatment that Gould makes of Bach or even Beethoven tends much more towards the

²² For a condensed account on the contextual, sociocultural, and ideological elements of musical performance, see Navickaitė-Martinelli (2007) and Navickaitė-Martinelli (2010). Particularly, the latter article discusses the relations of the transformations of musical performance art during the twentieth century, such as sociocultural background, matters of repertoire, marketing, schools of performance, and sound recordings.

²³ See the study of Richard Leppert, among others; for instance, his *The Sight of Sound. Music, Representation, and the History of the Body*, Berkeley, Los Angeles, London: University of California Press, 1993.

“Work–Performance” or the “Work–Non-Performance” dimension (although that is only very relatively applicable to the artists of Gould’s kind).

Another legitimate question that might be raised is: Are all the elements audible while *listening* to musical performance? The answer generally is “no.” But then again, it has been already pointed out that a performance is not simply something that we “hear,” but something that we “experience.” Some elements, therefore, are already added to the perception when we *see* a live performance, some others come *before* we even decide to hear a certain performance, and so on. It is not necessary that a performance is only that which we receive and perceive from a “blind listening”: listening without even knowing who is playing (such a beloved method by many devoted music lovers!). Moreover, it is worthwhile remembering Stefani’s theory of musical competence, and especially its idea that the competence of any receiver is worthy of the musicologist’s attention. It is obvious, for instance, that most elements of the score, as well as the stylistic or the technical aspects in music performance, are accessible only to a professional listener, some perhaps more to the musicologist (structural matters), while some are only relevant to the practicing musician (fingering, pedalling tricks, etc.). However, there are many nuances that may draw the attention of the lay-listener (for instance, the dress or gestures of the singer, or the sheer anthropological aspects that traditional musicology tends to ignore), and these should also be taken into account while studying the phenomenon from a semiotic perspective.

34.5 Conclusions

The performative dimension of music, perhaps mostly due to its ephemeral, nontangible nature, has been traditionally situated at the margins of academic research. Performativity—in several fields of culture, including also the art of music performers—is of late acknowledged as an equally important object of study as the written aspect of music, and as such still calls for new methodologies and thorough investigations. A semiotic analysis of the art, I dare suggesting, is an interesting and promising perspective for musical performance studies. It was not the goal of the present chapter to thoroughly sustain the contents and potentials of all possible types of semiotic investigation of musical performance, but rather bringing to the fore some semiotic tools that the models under discussion offer for examining the performer’s art. In all cases, the main premise remains that of seeing the art of musical performance as a coherent series of processes and gestures that covers the whole sphere of a musician’s cognition, including aspects that transcend music as such. A theory of performer’s subjectivity presupposes an analysis of the balance of individuality and standards in the activity of a performer, and the ever-changing relation of an artist with the society and environment; Stefani’s theory of musical competence argues that it is in the essence itself of musical performance constructing a network of relations that are by far not limited to the work that is being performed, but that calls into question anthropological, contextual, and individual aspects: performance

stems from a physical body, exists within a society, finds its way backward or forward in time and history, manifests the presence of an aesthetic program, develops into an artistic code, and much else besides; this research is summarized into a semiotic model which, hopefully, enables a broader viewpoint into a complex and polyhedral work of musical performers that still calls for a closer scrutiny.

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Lina Navickaitė-Martinelli is a lecturer and Head of the Postgraduate Studies' Office at the Lithuanian Academy of Music and Theatre. She holds a PhD in musicology from the University of Helsinki (Finland). She has edited and coedited several academic collections, and has been a member of research projects in Finland and Lithuania. L. Navickaitė-Martinelli has presented numerous papers at seminars and conferences in various countries of Europe, and has published scientific articles in international journals and collections of articles. Her book *A Suite of Conversations: 32 Interviews and Essays on the Art of Music Performance* (Vilnius: Versus aureus, 2010) has been awarded Lithuanian Composers' Union Ona Narbutienė Prize for innovative research on music performance. Her scientific monograph *Piano Performance in a Semiotic Key: Society, Musical Canon and Novel Discourses* was published by the Semiotic Society of Finland in 2014. She focuses her scholarly research on various aspects of the music performance phenomenon. L. Navickaitė-Martinelli is the founder and co-ordinator of the LMTA Headquarters of Artistic Research and Performance Studies (HARPS). More information can be found at linamartinelli.wordpress.com.

Chapter 35

Cartosemiotics

Christina Ljungberg

35.1 Approaches to Recent Research into Cartosemiotics

Cartosemiotics has gained much interest in the last few decades with the increased attention to space in the humanities. Recent research into cartosemiotics can be found in, e.g., *Kartosemiotik* 1–6 (1991–1995) and in special issues on *Cartographic Thinking and Map Semiotics* in *Geographia Slovaca* 5 (1996) and the *Zeitschrift für Semiotik* 20.1–2 (1998) as well as two works by Palek (1986, 1991). There have also been an unpublished MA thesis by Maher (1993) and unpublished dissertations by Moore (1989) and Paschoale (1990). Schmauks' *Multimediale Informationspräsentation am Beispiel von Wetterkarten* (1996) deals with several aspects relevant to cartosemiotics. Nöth's chapter on maps in his *Handbuch der Semiotik* (2000) gives an illuminating overview and focuses on the state of the art at the time, which he later much developed in articles on medieval maps in Glauser and Kiening (Ljungberg 2007) and Baumgartner and Stercken (Nöth 2012). For research on the use of maps in general, see Ljungberg's articles in e.g. *Semiotics 2001* (Ljungberg 2002), *Semiotica* (Ljungberg 2004) and Armand (Ljungberg 2005b); in fiction in *Word & Image* (Ljungberg 2005a) and Glauser and Kiening (Ljungberg 2007); in art in *The Cartographic Journal* (Ljungberg 2009) and in Kriz, Cartwright & Hurni (Ljungberg 2010). For diagrammatic aspects of the map, see Stjernfelt (2007) and Ljungberg (2012). Another forum for cartosemiotics is the journal *Metacartosemiotics* (<http://meta-carto-semiotics.org/>), edited by Hansgeorg Schlichtmann together with Alexander Wolodtschenko in which Wolodtschenko's 2011 article provides a useful overview of the discipline's 30 years of development.

C. Ljungberg (✉)
English Department, University of Zurich, Zurich, Switzerland
e-mail: cljung@es.uzh.ch

35.2 Jacques Bertin's Semiology of Graphics

One of the earliest approaches to the semiotics of maps was Jacques Bertin's *Semiology of Graphics* (1967/1983), in which Bertin worked out cartosemiotic foundations as to the differences between maps and other semiotic systems such as pictures, language or music (1967, p. 10; Nöth 2000, p. 487). Bertin came to the conclusion that cartography is a 'monosemiotic' system, consisting of clearly defined elementary signs, whereas music and language are 'polysemiotic' since their meanings are often polysemic. A single sign has typically several meanings. In contrast to a map, music is extremely polysemic. As Nöth (2000, p. 487) points out, Bertin even speaks of a 'pansemiotic' system.

In particular, the graphic system of visual variables that Bertin developed has proven to be very adaptable for information design to the point of becoming an indispensable and universally recognized theory of the cartographic transcription of geographic information. Bertin identified two kinds of indispensable constituents in the cartographic semiotic system, namely invariants and variables, and investigated the relationship between them. Shape, size, texture, intensity/value, colour/hue, orientation, position are the seven variables representing variations on a map (Bertin 1977/1983). In the age of automation, geographic information systems (GIS) and multimedia, Bertin's graphic system has proven well adaptable to the dynamic as well as to the nonvisual modes of representation which are available in the digital age.

35.3 Linguistic Approaches to Cartosemiotics

Despite the difference between the two semiotic systems of cartography and language, the question whether cartography can be said to be a specific language has concerned cartographers and cultural scientists for a long time and continues to do so. While everyone seems to agree that cartography is a sign system that is especially suitable for representing spatial relationships, Robinson and Pechnik (1976) and Fremlin and Robinson (1998) go to great lengths to demonstrate that cartography is not comparable to verbal language. Although reasserting that mapping is a form of communication, Robinson and Pechnik (1976, p. 76) find that the differences between words and maps are 'so profound and fundamental [...] that] any effort to apply to mapping principles of operational structure out of which arise the grammar of a language is wasted effort'. Similarly, Fremlin and Robinson (1998, p. 3) argue for the arbitrariness of both systems. In their view, verbal and map communication operate differently, especially as far as the use of projection to represent our geographical, 'real' world is concerned, which is ultimately what will decide on the map's suitability for adequate representation.

Map signs may constitute a language if certain criteria are adopted, such as the existence of a vocabulary, indexical/characterizing parts, and force-showing devices analogous to reinforcement in verbal language by, for instance, illocutionary verbs such as 'I assert that', 'I imagine that' (cf. Hermerén 1988, p. 183). It is true that

map symbols and the letters of the alphabet function differently. Whereas both can be repeated infinitely, the same map symbol may refer to very different objects. As Monmonier (1992, p. 130) has observed, maps have many kinds of topographic vocabulary. There are even great variations between neighbouring countries, with ‘noteworthy differences’ between Canada and the USA, Austria and Germany, or Norway and Sweden, which points to biases in the national mapping organizations that almost resemble dialectal differences. Furthermore, maps involve a high degree of representation: they are strongly indexical, and one of their basic functions is to enable orientation by identification. This has been pointed out by Palek, who investigates the analogies and differences between maps and texts. In his view, it is the indexical sign function in both media which underlies the different functions of verbal and cartographic signs (1986, 1996; cf. Nöth 2000, p. 488). Schlichtmann (1985, 1991a, 1991b, 1992, 2001, 2006, 2008) also sees many parallels between linguistic and cartographic sign systems. Schlichtmann’s investigations focus on the paradigmatic and syntagmatic dimensions and the difference between language and map as to arbitrary and motivated sign use. He sees an analogy between the minimally meaningful cartographic elements and the morphemes of verbal languages and draws a distinction between the level of expression and the level of content in cartographic signs. Departing from Eco’s (1976) theory on codes and iconic signs, Schlichtmann (2008) postulates the study of three phenomena, namely (1) universal concepts, (2) expression material, i.e. the map sign units, and (3) the set of rules that decides the interpretation of the map by applying codified knowledge, thus producing new knowledge.

35.4 Peircean Approaches to Cartosemiotics

It is only recently that the semiotics of C.S. Peirce has gained a wider recognition in cartosemiotics. Although Maher’s (1993) MA thesis in cartography and Paschoales’ (1990) PhD dissertation on geological maps both make systematic use of the Peircean sign typology, modern semiotic approaches have begun to appear relatively late (cf. Nöth 2000, 2007, 2012; Stjernfelt 2007; Ljungberg 2002, 2004, 2005a, b, 2007, 2009, 2010, 2012). Nöth (2000, p. 488) presents two basic ideas in the Peircean framework, which have proven very productive, namely Peirce’s doctrine of the triad of signs and their typology as to the relation between sign and object.

As a surveyor and cartographer, among other professions, Peirce also contributed to cartography with his proof that in order to make the necessary distinction between any neighbouring countries on a map, only five different colours are necessary. Another discovery of relevance to cartography is Peirce’s method of quincunial projection, which is conformal everywhere except at the corners of the inner hemisphere (cf. Maher 1993; Nöth 2000). This projection, a result of Peirce’s highly sophisticated work with diagrams, was still used by the US Coast Guard as late as in the 1980s. As Guastavino and Havenel (*in preparation*) point out in an unpublished manuscript Peirce demonstrates that cartography is indeed a general experimental science that can even be applied in philosophy and mathematics.

In contemporary cartosemiotics, it is above all the Peircean insight into the diagrammatic nature of maps that has been very fruitful. In order to function as a map, there must exist what Woodward (2001, p. 56) calls ‘a structural analogical relationship of the scaled topographic map to reality’—which is what Peirce calls the diagrammatic relation between the map and its territory. Diagrams are representations by means of which the recognition of patterns of similarity between signs and objects become possible. They also determine the complex relation between a sign and its object(s), which accounts for the map’s effectiveness as a sign. Maps represent points in space by diagrammatically arranging particular map signs. They are able to create an intelligible structure from the relations between objects by making these relations visible.

Maps seem to possess an inherent capacity for imaging, which would account for their being such indispensable instruments for experimental thought. This capacity is probably based on their diagrammatic nature. A diagram is an icon or a form of relations corresponding to those of the object it represents. It thus concerns the way these objects relate to one another. Icons and diagrams both represent relations by means of qualities that they have in their own form, for instance, the road sign showing a bifurcation of the road. It is this ‘direct’ similarity, the likeness between the sign and its object, which gives diagrammatic icons their characteristic potential. A map is ‘like’ its territory, if also in an abstract way. This is why we recognize above all the relations between the places it represents, not the places themselves, whether these are the forms of buildings, highways or landscapes. The visual aspect of the icon therefore always involves a relationship of resemblance.

35.5 Maps and Their Objects

In Peircean semiotics, a map has at least two objects, a dynamical and an immediate object. The dynamical object is the reality of the geographical facts (in the case of a map), whereas the immediate object is what could be called the mode of imaging intrinsic to the map itself (Peirce 1998, p. 498), which will influence the ways in which the map will reflect our cultural and personal knowledge. As icons, maps are primarily regarded as diagrams, the second subcategory within Peirce’s three types of icons, images, diagrams and metaphors. Diagrams can only represent relations, structures or abstract patterns. Hence, for a map to function as a means of orientation, it requires *the recognition* that the relations between its different parts are analogous to those between the parts of the geographical areas it represents.

Medieval maps posit an interesting example of this to us, since they do not seem to represent ‘reality’ at all. Take, for instance, the Hereford *mapa mundi* from around 1300 AD (Fig. 35.1), which is the largest, richest in detail and best preserved medieval map we know and which gives a wonderful overview of medieval culture in England at the time. Structured as a medieval T–O map, the two rivers, the Don and the Nile, are flowing into the Mediterranean, forming the borders of the three known parts of the world, Asia, Europe and Africa, with Christ presiding over then globe. The Orient, which was considered the farthest away, is placed just



Fig. 35.1 Hereford *mappa mundi*. (Whitfield 2010, p. 21; ©British Library Board, Maps 218.a.10)

under Paradise. The Mediterranean is the central geographical object, with Sicily's volcano Etna and the labyrinth of Knossos easily recognizable, and Jerusalem at the centre of the map. The British Isles are located at the bottom left, and the Red Sea and the Arabian Gulf can be seen as a fang at the upper right. The world shown here is the medieval world view. Almost all place names are European. They are located around the Mediterranean region since at the time, the greater part of Africa and Asia were unknown.

The diagram founding the basic structure of this map demonstrates the extent to which medieval *mappae mundi* represented the earth not only as a geographic but also as an ideographic and mythographic space. Since the knowledge of world geography was restricted to Europe and parts of Africa and Asia, and since nobody had ever seen the world ending anywhere, it was assumed that the known world extended into 'unknown' or 'uninhabitable' territories, which were nevertheless inhabited by mythical, legendary, literary or biblical creatures—Gog and Magog, the ichtyophagi (fish eaters), the Astomi (apple smellers) or the anthropophagi

(man-eaters), who all lived on the periphery of the Greek world and in particular in India and Ethiopia (cf. Münkler and Röcke 1998). This is determined by at least two conflicting and seemingly disparate diagrammatical and geographical codes:

- A local code which results in the more detailed and oversized representation of the British Isles. This is the geographically known and familiar world in which the readers of the map (and its maker) were at home and travelled, and in which measurements of geographical objects and travel distances were based on experience or on stories by travellers, pilgrims or merchants. This code also places England, Scotland and Ireland in a diagrammatic relationship to the rest of medieval Europe from the mapper's subjective and local viewpoint. The representation of the architecture of major cities such as Paris, Rome and Alexandria alongside towers and city walls of smaller towns such as Salzburg or Cordoba suggests that the mapmaker was conscious of the geographical world beyond his own immediate surroundings.
- A second code which requires the global perspective of a world map, which results in the much smaller scale in which the world map is represented. For instance, Jerusalem is overrepresented as the holy city and the centre of biblical narratives, whose imaginary landscapes are then projected on to a diagrammatic representation of the physical, geographical world as it was known at the time.

Following this second code, the top of the map is associated with the origins of world history and the regions below with the history that followed after. The Garden of Eden is featured at the top with Adam and Eve, with Paradise showing the mythic origins of humanity by projecting the time axis of the biblical myth of Adam and Eve onto the map's vertical axis. In addition, the map's east–west orientation is just in line with its geographical meaning. Not only was Paradise located at the eastern margin of the known world but also diagrammatically placed beyond the beginning of time. If this seems difficult to accept for modern readers, as Nöth (2012, p. 349) has pointed out, medieval readers schooled in the tradition of biblical hermeneutics were familiar not only with reading texts in the tradition of biblical exegesis but also with the custom of even reading objects of the physical world from the perspectives of several simultaneously valid codes.

Although the Hereford map does not represent what we today call the world, it is a diagrammatic representation of its maker's mental image of it, that of his audience, and, not least, of his benefactor's, whose approval was necessary for its benevolent reception and remuneration. Although to us, the map may seem unclear and distorted because it does not represent the 'real' territory, medieval readers were probably able to locate themselves geographically and did not find it 'wrong' at all (cf. Nöth 2012, p. 351). Moreover, as Flint (1999, p. 24) has pointed out, the map diagrammatically displays an 'emphasis on hearing and seeing as well as reading, for a didactic purpose of some kind'. Evidently, this map's design had a pedagogical intent, using its wealth of historical documentation, of biblical and other myths as well as of local lore and politics as a teaching aid to evoking interest in and to giving its audience insight into the complex ways of both the divine and mythic worlds as well as their own.

35.6 The Hybridity of Maps

The Hereford map above has shown that maps are hybrid sign systems which make use of two very different semiotic systems, the verbal and the visual. Both systems transform the three-dimensional world into a two-dimensional representation but, unlike verbal language such as a written text which is organized linearly and read in a temporal sequence, a map is non-linear and can be read in any direction. This is what maps and photographs have in common: both are two-dimensional representations representing their objects diagrammatically. The difference between the two lies in their degree of conventionality. On maps, cartographic conventions give relatively precise instructions for their interpretation, whereas photographs offer more room for interpretation of what they represent. Instructions of how to read a specific map are communicated partly through their legend, which gives symbolic instructions, and partly through the map's diagrammatic organization. In order to facilitate recognition of these signs, differences are often simplified by unifying colours or lines representing areas sharing certain characteristics, such as the same range of altitude, which does not exist in linear forms in 'reality'.

35.7 Modern Maps

Maps have in the course of their development refined techniques such as triangulation and GIS, which correspond more accurately to the territory they represent. Nevertheless, although modern, scientific maps *seem* to correspond much more exactly to their territories than did historical maps such as the Hereford map; they will always be what Monmonier (Monmonier 1992, p. 180) calls 'graphic narratives'. Like all representations, they must necessarily involve authorship since the act of mapping inevitably comprises sets of choices, omissions, uncertainties and intentions. Mapmaking is therefore always a question of trade-offs, with the most striking one being conformity and equivalence since no projection can be both conformal and equivalent (Monmonier 1992, p. 14). Even satellite maps are constructed representations of our lifeworld, as Cosgrove (1997, p. 6) points out, when he says:

The naturalism of satellite and computer-generated images of the earth and spatial distribution (while itself as misleading as that of conventional Maps) has destabilized the conventional architecture, meaning and significance of mapping and of maps, helping to expose to scrutiny the 'authored' nature of the latter.

The awareness of the constructed nature of these 'graphic narratives' coupled with their rhetorical power has prompted a rethinking of the function of maps in the cultural studies. This comes to the fore not least in the frequent use of maps in contemporary art, often coupled with the desire to unmask hidden agendas together with the insight into the map's inherent potential for communicating complex data visually and formally coherently. Often starting out by revising and redrawing existing maps or digitally altering them, artists paint over and even distort conventional

Fig. 35.2 Mona Hatoum, *Present Tense*. (Installation Anadiel Gallery, Jerusalem (1996); soap and glass beads, $1\frac{3}{4} \times 94\frac{7}{8} \times 117\frac{3}{4}$ in. ($4.5 \times 241 \times 299$ cm); ©Mona Hatoum, Courtesy White Cube and Anadiel Gallery, Jerusalem)



map symbols such as those used to mark cities, roads and boundaries, only to have seldom-used topographical patterns and objects that come into focus in order to create their own personal atlases.

One such example of both personal and political map is the British–Palestinian Mona Hatoum’s art work *Present Tense* (Fig. 35.2, 1996). Hatoum took a map of the partitioning of the Israeli/Palestine territory outlined in the 1993 Oslo Peace Agreement and made her version of this map by creating a grid of 2200 square-shaped blocks of olive-oil soap (one of the last traditional products still being made by hand in Palestinian factories at the time), over which she pressed tiny red beads to form the territorial divisions of land to be ‘returned’ to the Palestinian authorities. This map is indexical in the sense that it refers directly to the actual Middle-Eastern territory at the same time as it iconically suggests land that should be returned, thus giving it an (imaginary) existence and is, hence, a diagram reflecting the present power relationships. In Hatoum’s words,

I came across a map divided into a lot of little areas circled in red, like hundreds of little islands with no continuity or territorial integrity amongst them. It was the map showing the territorial divisions arrived at in the first agreement, and it really was a map about dividing and controlling the area. At the first sign of trouble, Israel practices the policy of ‘closure’; they close all the passages between the areas so that the Arabs are completely isolated and paralyzed.... The Palestinians who came into the gallery recognized the smell and the material instantly. I saw that particular soap as a symbol of resistance. (Hatoum interview, Archer 1997, p. 26–27)

To Israeli visitors, however, the smell of soap at the exhibition, prompted mental images of concentration camps. Of course, Hatoum affirms that nothing could have been ‘further from her thoughts’ (Archer 1997, p. 27). This shows how both Palestinians and Israelis, as exiles, associated the soap grid with the terms of what Foucault (1976)/1981 calls ‘biopolitical limits’. However, what Hatoum’s art work demands is precisely the acknowledgement of such shared exile status in order to renounce the violence that abstractions such as ‘identity’, ‘citizenship’ and ‘mapped territory’ evoke.

This map also makes clear the extent to which all maps are metaphors. As we saw above, we can use physical relations in real space to diagram very subtle and abstract relations in cognitive space. According to Haley (1995, p. 608), this is particularly resonant in poetic metaphor, where the interaction of icon and spatial index is ‘even more pronounced and in fact fully reciprocal’. It is what allows the ‘stretching’ of an icon into a more expansive cognitive symbol. Although Haley is talking about linguistic metaphors, which are symbolic, so are diagrams and so is Hatoum’s map, as they are signs at least partly determined by cultural conventions—and so are the results of our cognitive activities, our thoughts. What is particularly interesting with Hatoum’s map if we look at it as a metaphor is that she restages the map, seen as one of the Western Enlightenment’s instrument for colonialism and control, into an ‘otherwise’ and in so doing, reverses what Krauss (Krauss 1986, p. 9) has described as the grid’s—or diagram’s—capacity to cover contradiction. This is, of course, also what constitutes the power of maps, which is contained in their being folded representations of complex and untidy accounts, relationships and stories.

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Christina Ljungberg is professor and lecturer in English and American literature at the University of Zurich and a Fellow of the Myrfield Institute for Cognition and the Arts. She was a Visiting Benjamin Meaker Professor at the University of Bristol and has taught at the universities of Amsterdam, Prague, Geneva and Berne. Her work focuses on narrativity and visuality, in particular the intersection of cartography and fiction as well as that of cognitive science and the arts. Her publications include *To Fit, to Join, and to Make* (Lang 1999), *Creative Dynamics: Diagrammatic Strategies in Narrative* (Benjamins 2012) and numerous articles on narrativity and visuality. Together with W. Nöth, she has coedited *The Crisis of Representation, Semiotica* 143.1-4 (2003), with E. Tabakowska and O. Fischer, *Insistent Images* (Benjamins 2007), with J. D. Johansen and H. Veivo, *Redefining Literary Semiotics* (Cambridge Scholars' 2009), with J. Conradie et al, *Signergy* (Benjamins 2010), with P. Michelucci and O. Fischer *Semblance and Signification* (Benjamins 2011), and with L. Elleström and O. Fischer, *Iconic Investigations* (Benjamins 2013). She is the coordinator of the International Iconicity Research Project, as associate of at the Forum for Intermediality Studies, Linnaeus University, and general editor of the series "'Iconicity in Language and Literature (ILL)'" (John Benjamins).

Chapter 36

From Semiosis to Semioethics

John Deely, in consultation with Susan Petrilli

Language is indeed the species-specifically human version of the animal modeling system that enables us to communicate syntactically, so let us begin our musings on the passage from semiosis to semioethics with the year 1971, the year that Thomas Sebeok's essay on the term "'Semiotic' and Its Congeners" shares in common with an edition of the "compact" version of the Oxford English Dictionary which I shall rely on. And, in addition, let me draw on Sebeok's presidential address 14 years later, in which he reminds us that, while it is Peirce who provides the missing link between the ancients and ourselves in the development of semiotics,¹ it is C. S. Peirce who is "our lodestar"² in the contemporary development of a global semiotics. This development of the twenty-first century has decisively overtaken and assimilated the twentieth-century European–American development of semiology as the first florescence in the late modern consciousness of something like a realization of the universal role of signs in creating the reality of consciousness, especially consciousness as acquiring—late in the game (with the emergence through biosemiosis of human animals)³—an ethical dimension, that is to say, a dimension of responsibility for the whole in which we are involved insofar as we are involved in it. This is the theme of these present remarks.⁴

¹ Sebeok (1986).

² Sebeok (1984).

³ I might note that it was exactly 11 years after Sebeok's diagnostic presidential address to the SSA in 1984 that it first occurred to me to suggest, in ad lib remarks at the conclusion of presenting my 1995 "New Beginning for the Sciences" paper never incorporated into the text itself, that semiosis is perhaps the fully correct term for what has customarily been called since Darwin "evolution."

⁴ The presentation outlines as follows:

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J. Deely (✉)
University of St. Thomas, Houston, USA
e-mail: JNDEELY@STTHOM.EDU

36.1 The Linguistic Approach: Necessity and Limitations

But let us begin with the beginning: first, insofar as we perforce take our departure from within anthroposemiosis; but, second, insofar as anthroposemiosis is *semiosis*. Whence our first question, equally perforce, has to be: exactly what is semiosis? In exactly what does the action from which signs result consist? Here, we might best take advantage of Peirce's distinction between "sign" and "representamen," in particular of his 1903 version thereof wherein he proposes that "a sign is a representamen with a mental interpretant."⁵

A "representamen" is anything that stands in the foreground position of an influence from another that results indirectly in something *new* in the universe which gives "meaning" in such a way as to provide an influence of the future potentially changing the relevance of past events to present circumstances.⁶ Thus, a "representamen" is always one of three elements united under one single, irreducibly triadic, relation of the sort that results not only in awareness-independent things becoming objects within animal sensation but further in these objects becoming themselves "signs" in the common sense (of things we can see and point to as "signs") at the levels of perception and understanding.

Of course, this "common sense" of the meaning of the word "sign" quite conceals the fact that whatever we can see or point to is a "sign" only by virtue of the foreground position it happens to occupy under a triadic relation, while it is precisely *that relation* which alone provides the formal being of any and every "sign" in the common sense. Thus, "sign" in the common sense, as "one kind of thing or object among others," is actually (as *sign*) not a thing at all but rather and precisely a *triadic relation* without which there would be no "signs" in the common sense at all. Hence, Maritain's perceptive observation⁷ that, while all animals make use of signs, only human animals can come to know that there are signs: because only human animals can consider in awareness objectivities, beginning with relations in their fundamental character as able to obtain independently of animal awareness, which admit of no directly sensible instantiation. Thus, while all animals are aware of *related objects* in the construction of their lifeworlds or *Umwelten*, only human animals become aware directly of the insensible *relations themselves*⁸ in that dimension of awareness which opens the way to the development of culture in its species-specific difference from the social organization generic to animals.

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⁵ Peirce (1903, CP 2.274, EP 2.272–73; D29 in Deely 2014: Appendix A.

⁶ On this peculiar constitution of the triadic relation as involving an *indirect* outcome, see Deely (2008d): "Aristotle's Triangle and the Triadic Sign". Cf. Hoffmeyer (2008): "Biology Is Immature Biosemiotics".

⁷ Maritain (1957).

⁸ This is the "glass ceiling" I described as "The Nonverbal Inlay in Linguistic Communication" (Deely 1980). See further Deely 2007b, 2012.

It is a question of the being of relations that gives rise to “signs” (in the common sense),⁹ and the unique, partial indifference of semiosis to the difference between *being* as *what is here and now*, and *nonbeing* in the sense of what rather could and may become “tomorrow,” as we will see.

Anthroposemiosis is semiosis first of all, but linguistic communication too “first of all,” if by “first of all” we include not merely the “logically prior” but the *species-specifically distinctive*. My present remarks, in fact, could be summed up as an attempt to balance these two senses of “first.” Let us, then, start where we must, with language.

Even though language (or, more exactly, *linguistic communication*) is the indispensable entry key to participate in any *Umwelt* as species-specifically human (that is to say, as consisting of a cultural environment capable of supporting inquiry both cenoscopic and idioscopic into the nature of things), to make of linguistic analysis the very substance of philosophy (“the linguistic turn” after Wittgenstein) was among the final delusions of modernity, for the reasons first suggested by Todorov (1977, p. 40; 1982) and spelled out at length by Deely (2006), namely, that language itself is, for all its grandeur and centrality to human identity, life, and culture, but *one system of signs among others*, one which achieves autonomy only *relatively* and while *remaining dependent* in the main on the elements of *zoösemiosis* without which even the highest achievements of speculative discourse in science and philosophy would implode.

The development of semiotics as the doctrine of signs, that is to say, as a cenoscopic rather than an idioscopic science (Bentham 1816; Peirce 1905, CP 8.199; Deely 2008a), gives us one of the clearest reminders, if one still be needed, that, as far as science and philosophy are concerned in their proper dimensions as investigative of realities and explicative of the results of those investigations, the “meaning of a word” cannot possibly be either a simple stipulation of “what I want it to mean” or an exposure of its “use in a language”; for both stipulation and established customs of use are at the service of something else, to wit, the very nature of the object of the investigation and the determination through that investigation of what in the object belongs to it independently of its relations to us, and what belongs to it precisely in consequence of the network of relations mind-dependent as well as mind-independent into which it perforce enters as *object*—something existing at

⁹ Crucial for semiotic development over the long term, though unfortunately not yet customary and even resisted in presently advanced semiotic circles (see this point dramatically illustrated in Short’s (2009) response to Deely 2009a, b), to distinguish between “the being of signs *in the common sense*” of that foreground element under a triadic relation which represents another than itself to or for a third, and “the being of signs *formally considered*” which consists rather in *the triadic relation itself* (cf. Poinot 1632, p. 154/21–30; Peirce 1904, CP 8.332; Deely 2001 and 2008c), uninstantiable to sense but recognizable intellectually, which unites the three elements of representamen, significate, and interpretant (i.e., which constitutes the sign as *triadic*)—without which relation there would be no “signs in the common sense” nor, more generally, no representamens able to become signs within the awareness of animals. Peirce, coming from a mathematical perspective, speaks of the triadic relations that occur prior to awareness as “degenerate thirdness.” But when we consider semiosis in the evolutionary context of moving a lifeless universe in the direction of becoming able to support life, we should perhaps speak rather of *pregenerate thirdness*, or “physiosemiosis,” operating precisely through those *repraesentamina* which will become “signs in the common sense” once animal will have emerged in the biosemiosis which includes the realm of plants as well as animals.

least in part as cognized or known—in contrast to the being proper to “things” as what are what they are whether or not they are a part of any finite consciousness.

Consider what a dead-end results when we take the linguistic expression or term “sign” as a dictionary item and make that (“its use in a language”) as the point of departure as such for would-be semiotic analysis. Nothing in the nearly four half-page columns on p. 2820 of our 1971 edition of the *Oxford English Dictionary* suggests anything like what has become common knowledge among semioticians today—thanks not to dictionaries but to the work of Poinot and more recently Peirce in establishing the purely relational mode of being proper to signs in their distinctive being: “In its genuine form,” Peirce advises us,¹⁰ “Thirdness is *the triadic relation* existing between a sign, its object, and the interpreting thought, itself a sign, *considered as constituting the mode of being of a sign.*” Indeed, we now realize that what the dictionaries heretofore all but exclusively treat under the entry “sign” are what semiotics today recognizes rather as but the vehicle occupying that one of the three positions involved in signification which presents something other than itself to or for some third. “Being a sign” in the dictionary sense of *sign vehicle* is in itself not a sign at all, inasmuch as what occupies the foreground position in question within a triadic relation, namely, the *representamen* (to use Peirce’s felicitous coinage), can on other occasions and in other contexts occupy instead either of the two other positions united in the one single triadic relation, namely, that of the *significate* (or “object signified,” as we say redundantly)¹¹ or that of the *interpretant*, the “third” to or for whom the object signified is signified by the sign (vehicle) or (more generically) “representamen.”

But remove the triadic relation, the being formal and proper to the sign, and representamen, significate, and interpretant, all three, either cease to exist (insofar as they are purely objective realities) or at least fall back into the bare existence of things which have no necessary relation here and now to a finite knower in order to be as elements of the physical surroundings. Under such circumstances, nonetheless, where there may be no sign *actually* (i.e., fully as genuine thirdness), yet there remains the representamen active as a sign *virtually*, as we will see both Poinot (1632, p. 126/3–4) and Peirce to say, e.g., Peirce (1902/1903, CP 2.275):

while no Representamen actually functions as such until it actually determines an Interpretant, yet it becomes a Representamen as soon as it is fully capable of doing this; and its Representative Quality is not necessarily dependent upon its ever actually determining an Interpretant, nor even upon its actually having an Object.

In such a case, therefore, the “being of the sign” is a triadic relation only *virtually* rather than actually (“pregeneratively”), and that being is at least for the moment and under the circumstances reduced, as it were, to such being as the representamen has in its interaction with the physical surroundings as one “thing” among other “things.” As Peirce puts it (1903, CP 1.542), the triadic relation itself, therefore,

¹⁰ Peirce (1904, CP 8.332) and Poinot (1632, 1.3 155/25–29), the irreducibly triadic relation “is the proper and formale rationale of a sign.” See again the discussion in the preceding note and Deely 2004, 2008c.

¹¹ See Deely (2001, 2011a, b).

must, as virtual rather than actual, “consist in a *power* of the representamen to determine *some* interpretant to being a representamen of the same object”;¹² or, as Poinsoot put it, “it suffices to be a sign virtually in order to signify in act.”¹³

Of course, as semiotics advances and becomes familiar to more and more individuals, to larger and larger groups within the various lifeworlds of species-specifically human culture (the species-specifically human *Lebenswelten* developed from the generically animal *Umwelten*), the dictionaries themselves will change and reflect new usages of “semiotics and its congeners” which will indeed, at that future time, give “linguistic philosophers” a sufficient purchase to ply their wit and analytical cleverness. But we are not at that future point, far from it, and what we need to do rather is give linguistic expression to the results of investigations of the *action* of signs precisely as revealing the *being* of signs (genuine and “pregenerate” alike) to human understanding. This will involve, to be sure, stipulations—some new ways of speaking. And it will involve too taking account of established customs of “use in the language.” But it perforce goes beyond both (as does any properly scientific analysis expanding or deepening our understanding of “the way things are in themselves” as well as in relation to us).

So, just as we have already noted, the task simply does not and cannot reduce to either or both of those two functions (stipulation and custom) upon which “linguistic philosophy” as such completely depends. For the question is not that which the dictionary is designed to answer (“What is a sign viewed in terms of established usage?”) but *what is a sign in its proper being*. Not only is the question of what the dictionary is designed to answer not yet the question that semiotics seeks to answer but that very question of what the dictionary has to say is quite beside the point inasmuch as the semiotician, as Peirce put it (1904, CP 8.332), is rather “in the situation of a zoologist who wants to know what *ought to be* the meaning of ‘fish’ in order to make fishes one of the great classes of vertebrates.” If it were up to the linguistic philosophers, we would not to this day have been able to learn that whales are not a species of fish.

¹² Peirce is speaking of “degenerate cases” from the standpoint of genuine thirdness; but from the standpoint we are considering we might as well call them “pregenerate” cases.

¹³ Poinsoot, of course, had no idea whatever of the universe as an evolutionary development, yet his notion of semiosis points precisely in that direction once the myth of the celestial spheres has been exposed, which makes his remarks on the point at hand all the more interesting—Poinsoot (1632): *Treatise on Signs*, Book I, Question 1, 126/3–22: “it suffices to be a sign virtually in order to signify in act. This can be readily seen in an example: X in act causes and produces an effect, therefore it is in act really a cause; for when the cause in question no longer exists in itself, through the virtuality or efficacy it leaves behind, it causes and causes formally, because the effect is then formally produced. Just so, when a sign exists and by a virtual signification formally leads the mind to something signified [which no longer exists in fact], it is nevertheless not a sign formally, but virtually and fundamentally. For since the rationale of moving or stimulating the mind remains, which comes about through the sign insofar as it is something representative, even if the relation of substitution for the signified does not remain, the sign is able to exercise the functions of substituting without the relation, just as a servant or minister can perform the operations of his ministry even when the master, to whom he bespeaks a relation, and in which relation the rationale of servant and minister formally consists, has died.”

36.2 In Search of the Broadest Sense of Sign

“Taking sign in its broadest sense,” Peirce advises (1904, CP 8.332), “its interpretant is not necessarily a sign”; and here our late-modern master of the transition to postmodernity begins to grope:

we may take a sign in so broad a sense that the interpretant of it is not a thought, but an action or experience, or we may even so enlarge the meaning of sign that its interpretant is a mere quality of feeling. A Third is something which brings a First into relation to a Second. A sign is a sort of Third. How shall we characterize it?

Concepts, Peirce notes (1904 and elsewhere), if we go back to the Latins, have more than sufficiently been established as interpretants which *are necessarily* signs (see Doyle 1984; Doyle ed. 2001; Deely 2007a, Chap. 12). But what of those interpretants which *are not* necessarily themselves signs, or even “something mental”? What of the action of signs among plants, for example, where animal consciousness is not directly involved? (The realization that there is an action of signs among plants, “phytosemiosis,” is rightly regarded as one of the main achievements of the later twentieth century, and indeed the achievement which made the contemporary notion of *biosemiotics* possible: no life without the action of signs.) But Peirce goes even further than this, further than the extension of the action of signs to the whole of the lifeworld. “Who,” he asks (Peirce 1907, Ms 318, 205–06), “is the utterer of signs of the weather?”

But he goes in this same manuscript even further still: There are cases, he tells us (Peirce 1907, W 2.404, italics added), where “there must be a sign *without an utterer* and a sign *without an interpreter*” (thus, clearly, “signs” in the pregenerate virtual sense of “representamens”).

In any such case, carefully note, Peirce is not speaking of the sign in its full sense as a triadic relation provenating¹⁴ from a representamen but rather of some version of “degenerate thirdness,” as he calls it (better termed “pregenerate” in the context of cosmic evolution), which is a representamen as such—i.e., a sign vehicle, a “reality” from which a triadic relation *would* provenate did but circumstances permit. For “if a sign has no interpreter,” he remarks (ibid. W 2.409), “its interpretant is a ‘would be’, i.e., is what it *would* determine in the interpreter if there were one.”

36.2.1 *Was Sebeok’s Final View of Semiosis Coextensive with Life Broad Enough?*

When Sebeok noted (1984, p. 21) that “life modifies the universe to meet its needs, and accomplishes this by means of sign action,” while feeling at the same time “strongly drawn to Wheeler’s suggestion that the fundamental physical constants, the nuclear and cosmological parameters, and others, are constrained by the unbudging

¹⁴ On the full (and first) definition of this term, see Deely 2010, p. xiii–xiv.

requirement that life evolve,” is he not suggesting without realizing it that the development of the physical universe prior to the advent of life was itself a product of semiosis, even if that prior development, as Peirce suggested (Peirce 1870, p. 2.404), “cannot be fully revealed or brought to light by any study of the sign alone, as such. Knowledge of it must come from some previous or collateral source.”

In short, even if we accept Sebeok’s proposition that there is no life without the action of signs, we have still to ask (Deely 1991) if the converse of this proposition, “no signs without life” (perhaps rather: “no semiosis without life”), is also true? Sebeok, the principal architect of semiotics as overtaking and absorbing semiology as but a part of the doctrine of signs, was inclined so to think.

But we have to realize that Peirce had a still broader view, and Poincaré in this same line of thinking gave concrete indications of a philosophical nature to suggest that while indeed semiosis is essential for living things to maintain themselves as living, there is also a reason to consider that semiosis is essential to living things not only in their present and actual existence, as Sebeok recognized, but also to the bringing about within the physical universe of the initial conditions which made life first proximately possible and then actual—at which point semiosis passes from all “grades of degeneracy” (or “pregeneracy”) to reveal its full and genuine form in the veritable conflagration of sign activity drawing ever more and more complex living systems into reality as nature begins its climb, certainly on this planet (as all but certainly on planets elsewhere) toward that unique form of life which not only makes use of signs but is also able to recognize that there are signs: the life of the semiotic animal.

For with the human being emerges a consciousness which will bring with it, as we will see, and for the first time in the finite universe, *responsibility*: responsibility for the future not only of the species of animal within which that singular consciousness emerges (as first seemed) but also a responsibility which turns out to extend in principle to every other species of living being as well, because the responsibility is rooted in a form of knowledge which alone is capable of envisioning the requirements of the biosphere as a planetary phenomenon, and so of taking steps to bring civilization and culture into line with the requirements which, unless met, will destroy Gaia—the planetary whole of biosemiosis upon which the flourishing of life depends.

36.2.2 *Semiosis As Indirect Cause No Less Than Condition of Life?*

I want to muse out loud, then, *pace* Sebeok, that the true interpretation of the formula or maxim “no life without signs” is the one that makes the action of signs coextensive with the living world, indeed, as biosemiotics has increasingly demonstrated, but avoids the possible error (the “quasi-fallacy,”¹⁵ as we might say) of

¹⁵ Recalling Sebeok (1984, 20).

making the action of signs, purely and simply, a function of life. The most extreme form of the assertion that semiosis is a function only of life is perhaps witnessed in Short's blunder (Short 2007, *passim*; documented in Deely 2009a) making the purposive behavior of animal life essential to the function of signs as signs. But we have to wonder if even the broader and moderate assertion that life science is coextensive with sign science is not already a quasi-error. The text which I take as a focus for my play of musement on this particular occasion is the following one from Peirce (1868, CP 5.316):

Finally, as what anything really is, is what it may finally come to be known to be in the ideal state of complete information, so that reality depends on the ultimate decision of the community; so thought is what it is, only by virtue of its addressing a future thought which is in its value as thought identical with it, though more developed. In this way, the existence of thought now depends on what is to be hereafter; so that it has only a potential existence, dependent on the future thought of the community.

No doubt, my musement here presupposes some form of the so-called anthropic principle, according to which the universe is not indifferent to the existence of semiotic animals, but develops in such a way and along such lines as to become aware of itself precisely by bringing about the conditions necessary to sustain such a form of life.¹⁶ This idea is new in the context of our understanding of the universe as an evolutionary whole, but in pre-evolutionary views of the physical world the orientation of nature to the sustenance of life in its highest semiotic form was already a thesis explicitly held by Thomas Aquinas¹⁷ and others.

What is new in our consideration is the light thrown by the realization of how signs work in the universe—semiosis—upon the thesis that the material universe tends so to arrange itself as to *bring about* living things, and living things *in turn* tend to develop in the direction of semiotic animals. For *the action of signs follows upon the being of signs as constituted by semiosis*; and the being proper to signs in their full and genuine form as triadic relations is not as such the substantial form of a living creature. Far from it. The being constitutive of signs in their proper being is a part of that tenuous network without which such substances—living things—could neither emerge nor survive in the first place.

36.3 “Rendering Inefficient Relations Efficient”

How do signs act? According to Peirce (1904, CP 8.332), their essential function as relative beings is “to render inefficient relations efficient”—that is, to bring even dyadic relations of secondness into the realm of semiosis where they can contribute

¹⁶ “Incidentally,” Sebeok reported (1984, p. 21), “Bense (1984) came to the identical conclusion that the Anthropic Principle is a semiotic principle,” although Tom confessed himself “at a loss to follow his dense yet exiguous argumentation.”

¹⁷ Aquinas (1259/1265), cf. Maritain (1967), and Deely (1969).

to the increase of awareness among animals and knowledge among human animals in particular.

Let us start where the action of signs is indeed most clear to us, in the structuring of the consciousness and experience of each of us as individual animals. How does the action of signs work in this sphere of reflective consciousness distinctive of animals able to distinguish relations from related things, and hence to know that there are signs—triadic relations, as Poinset and Peirce have shown—in their difference from related things functioning as sign vehicles in the objective world of animals?

Here is the trajectory I wish to follow: from semiosis as working to transform an initially lifeless physical universe in the direction of being able to sustain living things, to continuing at work among those living things first brought about to increase and multiply them not only as individuals but also as species of increasing complexity and (with the emergence of animals) awareness, including finally a consciousness which required the development of a biologically underdetermined *Innenwelt* in order to be able to model “things” not reducible to sensory aspects of objects, in terms (foundationally) of pure relationships which, exapted, will become *linguistic communication* as a species-specifically unique channel of communication opening the door to the “world” of culture as over and above while also though inclusive of the world of animal social organization and of that realm of physical objects generally that we call “nature.”

36.3.1 *Semiosis as an Influence of the Future*

If “thought is what it is only by virtue of addressing a future thought which is more developed,” as Peirce held (1868, CP 5.316), and thought as *consisting* in signs is necessarily involved in the semiosis of sensation where animal awareness begins in a physically semiotic interaction logically prior to and independent of the formation of those interpretations of objects that we call “concepts” or “ideas” (mental other-representations interpreting the objective self-representations resultant from the brute secondness of interactions as causing sensations when an animal body is involved in the interaction), then, if semiosis is even contingently and, as it were, intermittently involved in the material interactions of physical things prior to life, then the physical environment is what it is (insofar as semiosis is involved) only by virtue of addressing a future state of affairs which is more developed, and one eventually, even though not initially, dependent on the thought of a community wherever a community of inquirers as semiotic animals has been (or will be) able to constitute itself.

Now in human thought, how does the action of signs typically manifest itself? One principal way is by *guiding our behavior* in everyday affairs. I go to meet a friend, or go to a meeting to be chaired by a particular individual. Unknown to me, that friend, or that chair, is killed three hours before the scheduled meeting. I go there nonetheless, expecting to meet them in person. They are present to me as objects signified which are also things—or so I think even when the “also” no longer

obtains. My thought as a sign vehicle, part of my subjectivity, yet provenates relations suprasubjectively terminating at the presentation in my awareness of objects signified—equally when the objects in question as suprasubjective to my subjectivity (as “other”) are and when they are no longer things in the physical environment able to be encountered “in person,” that is, as possessing a subjectivity in their own right *along with* their objectivity at which my subjective awareness suprasubjectively terminates. Thus, signs work *as an influence of the future upon the present, and the meaning of the past is shaped by that influence* of the future through the present.

The future as signified may or may not turn out to be the future as experienced. But the future as experienced is nonetheless *shaped* by the *anticipated* future, even when the anticipations go awry. And there is no anticipation outside, or perhaps I should say, independent of, semiosis. Here, we have been speaking of conscious semiosis, semiosis as it is at work in the awareness of animals; but it should be clear that anticipation is of the essence of the action of signs not only when conscious awareness is involved, for the very possibility of conscious anticipation springs rather from the nature of sign action which both precedes and surrounds consciousness, even when it also involves consciousness.

How, then, can all this work in the realm of inorganic nature? Not constantly, as in the “genuine thirdness” realm of life. But why not in a “pregenerative thirdness,” intermittently, like a match struck to light a cigarette which sputters out before it flames sufficiently to achieve its purpose? As Peirce puts it (Peirce 1907), “it may be that there are agencies that ought to be classed along with signs and yet that at first begin to act quite unconsciously.” Thus, two events in the order of brute secondness (causal interaction among physical things) bring about a new situation which, not at the moment, but even indirectly or at a future time when yet some third new situation comes about—give rise, for example, to a first living thing, or at least to a change of circumstance that makes the remote possibility of life more proximate than previously? At that moment when the first living substance emerges, of course, and only then, the flame of sign activity is true and properly—fully—lit.

But what about those moments leading up to that moment, those moments wherein the material interactions of things at the level of secondness yet bring about *a thirdness of possibility* (a “firstness of thirdness,” as we might say) not at all possible prior to the specified interaction?¹⁸ Such transitions, such “leaps,” must have occurred, since otherwise an initially lifeless universe incapable of

¹⁸ Here I am extending to the physiosemiotic order an observation that Peirce makes of the anthroposemiotic order (Peirce 1906, CP 5.488): “It is not to be supposed that upon every presentation of a sign capable of producing a logical interpretant, such interpretant is actually produced. The occasion may be either too early or too late. If it is too early, the semiosis will not be carried so far. . . . On the other hand,” the occasion may come too late. (Here, then, is the proper place of chance in the process: central, yet not the very heart of the matter—cf. Deely 1969, pp. 105–111.) In the extension, yet still following Peirce (1904, CP 8.332), “we may take a sign in so broad a sense that the interpretant of it is not a thought, but an action or experience, or we may even so enlarge the meaning of sign that its interpretant is a mere quality of feeling,” with the *yet further* qualification (Peirce 1907, W 2.410) that “it may possibly be that I am taking too narrow a conception of the sign in general in saying that its initial effect must be of the nature of feeling, since”—as we mentioned above—“it may be that there are agencies that ought to be classed along with signs and

sustaining life would have *remained* lifeless and *remained* incapable of sustaining life.

Yet we know that there was *de facto* a development of the physical universe, which made life *proximately* possible prior to the advent of life, and apart from which development life would have remained impossible. Life lay far in the future at the instant of the “big bang,” yet all events thereafter occurred “as if” under the influence thereof, in the sense of occurring (not in every individual occurrence, but in the aggregate) as preparatory thereto. In broadest strokes, we can say that life requires planetary systems, and planetary systems require stars; yet neither stars nor planets were present in the universe from the beginning. The future as proximately possible in this or that way depends upon the present state of things here and now; yet those things here and now by their interactions bring about further present conditions which *change the possibilities* of the future and, at the same time, the relevancies of the past, because it is always those “future possibilities” which determine in any given present state of affairs the relevance of the past thereto.

Thus semiosis, as the *virtual influence* of the future upon the present changing the relevance of the past, may well be the essence of semiosis, the *action* not only *of signs* but also *through which signs become in the first place possible*, as Peirce suggested as early as 1868,¹⁹ even as the *being* of signs consists in triadic relations; and these relations enable a spiral of development whereby the future not only depends upon the present but *beckons* the present to draw upon the resources it has from the past in different ways than heretofore, until we reach a stage where the future exists as a state of consciousness in the awareness of animals able to envision that future according to alternatives neither given as such in nor reducible to sensation and sense perception: At that moment, the human animal begins a line of development which—slow by slow—falls more and more under

yet that at first begin to act unconsciously,” as indeed must be the case wherever it is a question of physisemiosis, as in nature prior to the advent of life. See Deely (2008a).

¹⁹ Peirce 1868, CP 5.316: “Finally, as what anything really is, is what it may finally come to be known to be in the ideal state of complete information, so that reality depends on the ultimate decision of the community; so thought is what it is, only by virtue of its addressing a future thought which is in its value as thought identical with it, though more developed. In this way, the existence of thought now depends on what is to be hereafter; so that it has only a potential existence, dependent on the future thought of the community.” And as we know all thought to be in signs—thought being not only itself a semiosis but a particular semiosis, depending in its achievements on yet other semioses which are not thoughts (i.e., semioses whose interpretant “is not a thought, but an action” bringing about a thirdness even if only virtually, and semioses the “agencies [of which] ought to be classed along with signs and yet that at first begin to act quite unconsciously”—so it is necessary that thought reveal something of the essence of semiosis as such, something common to every semiosis, and I am suggesting that that quintessence of sign action is an influence of the future affecting the present and reshaping the relevancy of the past. There is not always the achievement of genuine thirdness in semiosis—for example, when it is virtual but not yet actual—but there does seem always to be an influence of the future, which seems to be the meaning of Poinset’s formula (a formula which even Short 2007, pp. 53–56 recognizes to be operative in Peirce’s doctrine of signs. See further Poinset 1632, pp. 126/1–32; Peirce 1902/1903, CP 2.275; Deely 1989; Deely 2008b).

its own control of alternative possibilities, precisely as its understanding of the subjective constitution of its physical surroundings expands through especially the idioscopic developments of science in the modern sense, according to the saying common to Aristotle and Aquinas that “the speculative intellect becomes practical by extension.”

36.4 The Transition Within Semiosis to Semioethics

It is this species-specifically human and semiotic capacity to envision alternatives not reducible to the animal *Umwelt* of objects perceived simply as desirable (+), undesirable (-), or safe to ignore (0) which introduces into the lifeworld or *Lebenswelt* (the *Umwelt* as transformed by language and linguistic communication) the possibility of science, initially cœnoscopic, eventually idioscopic as well. That science is no different from the perceptual knowledge of all animals in being dependent upon the action and use of signs, but it differs from the perceptual knowledge of all other animals in being able to consider and reveal the “way things are” in their own subjectivity, their own constitution insofar as they are things existing whether or not cognized. Steel is stronger than cardboard not because either is known, but because of what each of them differently is subjectively; and that “is” requires recognition of the difference between objects as +, -, 0 (favorable, unfavorable, safe to ignore) and objects as sometimes and in various measures things existing over and beyond our animal attitude towards them as +, -, 0 objects.

It is the fact that no awareness can be achieved without the involvement of signs that remains inaccessible to animals unable to deal with relations in their difference as suprasubjective from things as intersubjectively related. For relations cannot be *perceived*, only related objects; but relations in their difference from objects related can be *understood*, and it is this awareness—intellection over and above sense perception—that distinguishes human understanding, for it is this awareness that is essential to modeling the world in ways that do not necessarily reduce to related objects in the order of material things accessible as such to sense. *But it is this awareness which also introduces, as a consequence of its unique awareness, the ultimate inescapability of responsibility.*

Thus, while all animals in making use of signs depend upon semiosis throughout their life (even as the universe depended upon a pregenerative semiosis to make life possible in the first place), since signs in their proper being are not sense-perceptible vehicles but triadic relations knowable as such intellectually but not perceptually, only human animals are able to know that there are signs and not simply to use signs. And since the study of signs presupposes the ability to know signs as such, i.e., in their difference from the vehicles of semiotic interactions, and that being proper to signs is revealed precisely through the action of signs (semiosis), that animal able to know signs in their proper being is most properly characterized in its distinctness as the *semiotic animal*, the animal which rises above mere semiosis by

becoming conscious of that process upon which all knowledge and life depends, as well perhaps as the process of development which leads up to and initially makes life proximately possible in a universe initially both lifeless and hostile to life. Responsibility for the continuance of the possibility of a living world in its actuality as an ascending development looms from the start as the horizon proper to the initial distinctiveness of anthroposemiosis.

36.5 The Semioethic Animal

Metasemiosis, the consciousness that there are signs, reveals thus that the consequences of actions must be taken into account in deciding what actions to perform if, as the ancients put it, “good is to be done” (the foundational imperative of moral life). That is the beginnings of ethics. But ethics has traditionally been envisaged in terms of taking responsibility for individual actions, and its semiotic character and roots have remained concealed in the standard treatments heretofore. As science and technology have become central to the lifeworld of human culture, we have begun to see that ethics in the traditional sense is not sufficient for the good of the species of semiotic animals—or any other animals, for that matter, in as much as it turns out that semiotic animals are no different from other animals in depending upon the surrounding conditions of their physical environment to thrive or even survive.

Thus, the individual ethical consciousness of human animals to behave in ways conducive to the good of the individual precisely as a member of a community expands to realize that the human community is a biological reality as well as a cultural one, and depends like every biological community upon certain conditions being preserved or developed not just in the human world of culture but in the physical environment within which that world of culture exists and upon which the human world, like the *Umwelt* of every animal whatever, depends for sustenance. Thus, the semiotic animal becomes *semioethical*, and ethics becomes *semioethics* as an acceptance of responsibility now understood to be “stringently derived from semiosis,” as Jeff Bernard put it,²⁰ not only for individual behavior but also for collective behavior, and responsibility for the consequences of behavior not only within the culture but also within the biosphere apart from which, like language divorced from zoösemiosis, the cultural world simply implodes.

Global semiotics, in the human person, implies ethics; but ethics in the human person as a semiotic animal turns out to be semioethics.

²⁰ See the attribution in Deely 2010, pp. xv–xvi. Bernard here was drawing upon and summarizing in particular the work of Petrilli 2004–2010, along with that of Petrilli and Ponzio 2001–2004, listed in the References below; but this list is representative, not exhaustive, even of the dialogue between Deely 2004a and Petrilli 2010 from which the present essay eventuates.

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The designation EP followed by volume and page numbers with a period in between abbreviates the 2-volume set of *The Essential Peirce*, a selection of those essays from the complete Peirce corpus (that is, unpublished as well as previously published) deemed most seminal and central to Peirce’s propiate perspective (pragmaticism or semiotic) made by the personnel of the Peirce Edition Project under the general editorship of Nathan Houser. EP 1 covers the years 1867–1893, EP 2 covers 1893–1913 (Bloomington: Indiana University Press, 1992, 1998, respectively).

The designation NEM abbreviates *The New Elements of Mathematics*, ed. Carolyn Eisele (The Hague: Mouton, 1976), 4 vols. bound as 5, covering the period 1864–1914.

The designation W followed by volume and page numbers with a period in between abbreviates the ongoing *Writings of Charles S. Peirce: A Chronological Edition*, initiated as the Peirce Edition Project at Indiana University-Purdue University/Indianapolis by Edward C. Moore under the general editorship of Max H. Fisch, succeeded first by Christian Kloesel in late 1984, then 1993 by Nathan Houser, and in 1999 by André DeTienne (Bloomington: Indiana University Press, 7 vols. published so far—1982, 1984, 1986, 1989, 1993, 2000, 2010—of a projected 20).

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John Deely is a professor of philosophy at the University of St. Thomas, Houston, TX, USA. He is the author of a complete history of philosophy from Thales to the present, *Four Ages of Understanding* (University of Toronto Press, 2001), which defines the term “postmodern” by tracing the development of semiotics within the whole of philosophy from its ancient beginnings to the twenty-first century. Together with Thomas A. Sebeok, he was a founding member of the Semiotic Society of America (SSA), for which he developed the “historical layering” SSA Style Sheet (i.e., requiring use of “source dates” from within an author’s lifetime, in contrast to though together with “access dates” from posthumously published editions), used in the SSA Annual Proceedings volumes and *The American Journal of Semiotics* (TAJS). Deely’s many publications cover contemporary problem areas in philosophy and the history of philosophy, particularly the development of the doctrine of signs or “semiotics.” The corrected second edition of Deely’s bilingual presentation of Poincot’s 1632 *Tractatus de Signis. The Semiotic of John Poincot*, which was the featured volume in the *New York Time Book Review* of 30 March 1986, has just been published by St. Augustine’s Press (South Bend, IN; Spring 2013).

Chapter 37

Seeing “What We See”: Beyond Projection and Representation of Criminality in Mainstream Media

Jonathan Arendt

At a recent conference in New York, Angela Davis conducted a keynote address via conference call with still-imprisoned but former-death-row inmate, Mumia Abu-Jamal (Davis and Abu-Jamal 2012). She, on the stage, asked questions of him, in his cell, as the audience listened in on the phone conversation and during the exchange, the topic of the recent killing of Trayvon Martin by George Zimmerman came up. Rather than lay the entirety of the blame at the feet of Zimmerman, who pulled the trigger, Abu-Jamal instead turned his ire toward the media, indicting them for their complicity in the dangerous perpetuation of broadcast criminal imagery before delivering his wishes for the industry’s death sentence. Abu-Jamal said,

When I heard about the Trayvon Martin incident/event/atrocity, I thought that the real killer is a media that criminalizes black youth, black men, black people and, therefore, puts into the minds of millions the very thought that someone wearing a hoodie is evil, looking to commit a crime. Especially if that kid is brown.... [During all of the coverage] nobody really talked about what the media has done to poison the minds of millions: to give a kind of criminalization to being black and walking down the street.... We need to eradicate those who mentally poison millions of people against black people and brown people and then put so much fear into them that when we look at each other, *we don't see what we see. We see what's projected* [emphasis added]. And I think the media plays a great role. And, of course, the solution is more incarceration. (Davis and Abu-Jamal 2012)

Abu-Jamal’s words speak directly to the importance of the study of semiotics and its role in a hypermedia society, replete with 24/7 news cycles and complex events distilled into easily transmitted and just as easily consumed sound bites. He underscores the difference between the “projection” of criminality and authentication, pointing to the media as the mediating element between what we see (or should or would see) and what they choose to project.

In my work with incarcerated youth (Arendt 2012), I studied the nature of depicted criminalization and its perpetuation in media production as well as the sociological fallout of those depictions, specifically as they relate to social attitudes

J. Arendt (✉)
Crescent School, Toronto, ON, Canada
e-mail: jarendt@crescentschool.org

toward criminality and incarceration, focusing on the intersections with the nation's youth. In this chapter, I discuss very generally the nature of incarceration in the USA—what Abu-Jamal calls the “prison house of nations” (Davis and Abu-Jamal 2012)—in absolute numbers as well as demographically, as it pertains to minorities and youth. Following the establishment of that disturbing status quo, I extend the discussion to the media and the impact that coverage—from news reportage to documentary programming—has on our attitudes towards criminals and those criminalized, including youth.

37.1 Incarceration and Discrimination in The USA

The USA has been deemed the carceral capital, globally; there is no other nation on the planet who imprisons its citizenry—in absolute and relative numbers—more than the USA, with more than 1 in every 100 adults now confined in an American jail or prison. The total numbers are staggering for a nation that exports a rhetoric heavily laden with references to liberty and freedom. There are 2.3 million people in prison in the USA, exceeding the figures of nations such as China (1.5 million) and Russia (890,000), nations that ranked second and third, respectively. The USA also tops the list of incarceration rates, relative to population, imprisoning its citizens with more frequency than any other country, much higher than other industrialized countries (e.g. eight times higher than Germany; Warren 2008, p. 5). Further, within the USA, there is no state that imprisons more of its residents than Louisiana (Blow 2012), my home and site of my research in a secure custody juvenile facility. A state where 1 out of every 86 adults is locked up. A state that has the highest percentage of prisoners serving life-without-parole sentences. A state whose governor, Bobby Jindal, recently attempted to broker a deal with a private prison corporation to take over three of Louisiana's prisons in exchange for guarantees, by the state and governor, of 90% minimum occupancy so that the prison enterprise remains profitable (Brinkerhoff and Wallechinsky 2012). A state that is sadly becoming a microcosmic icon for the larger penal industry and attitude in the USA.

One of the first aspects of imprisonment in all areas of incarceration (nationally as well as the relatively small, youth facility in which I worked and researched) is the exponential incongruity when it comes to ethnicity representation behind bars compared to general population demographic figures; racial disparities are magnified and echo the perpetuated metonymical media representations and association of minorities with crime (Giroux 1997). For example, one out of every nine Black males, aged 20–34, is incarcerated while only one out of every 106 White males is behind bars (Warren 2008, p. 6). Meanwhile, *one third* of African American males, age 20–29, are incarcerated, on probation, or on parole (Paige 2004).

In an era when the school-to-prison pipeline is of increasing concern, focusing on education and youth becomes even more important. Many prisoners have been expelled from school or have dropped out and the prospects of their recidivism as a result, as adults, rise: “By 2000, high school dropouts of either race were being

locked up three times as often as they had been two decades before... [and] by the time they reach their mid-thirties, a full 60% of Black high school dropouts are now prisoners or ex-cons” (DeParle 2007, Sect. 2, para. 4). For the youth, juvenile statistics are likewise sobering, in total number as well as racial demographics. Each year, law enforcement officers make more than two million juvenile arrests and more than one and a half million juvenile cases are adjudicated. The result is 400,000 youth cycled through detention centers and 100,000 confined in secure facilities on a given day (Annie E. Casey Foundation 2009). In a study conducted that looked at years 1987 through to 1991, researchers found that the “proportion of minorities among confined juveniles rose from 53 to 63percent with the biggest increase among Blacks (37 percent to 44percent” (Parent et al. 1994, p. 10). In the most recent research on US incarceration, the Bureau of Justice Statistics found that the rate of imprisonment (for prisoners with sentences of more than 1 year) was nearly seven times higher for African Americans, aged 18–19, when compared to Whites (relative to their own racial demographic; Sabol and West 2010). Even for drug offenses of comparable degrees, racial discrepancies persist:

White, Black and Hispanic teens are about equally likely to use drugs, but Black juveniles are twice as likely as their White peers to be arrested for drug offenses and *more than five times as likely to be in secure residential placement* [emphasis added] for drug offenses. (Childrens Defense Fund 2008, p. 9)

The problems of a demographic discrepancy relative to ethnicity do not only exist in the USA. After working in a Canadian juvenile incarceration context, I noted the high percentage of aboriginal youth in the system. Latimer and Foss recognized the same thing and discovered that there was significant overrepresentation of these youths in Canadian juvenile incarceration systems (2005). They determined that race/ethnicity did play a part in their sentencing since aboriginal youths received stiffer disciplinary penalties than Whites who committed the same level of transgressions (Latimer and Foss 2005). Statistics Canada determined that “aboriginal youth continue to be highly represented in corrections” representing only 6% of the youth in the general population but in 2008–2009, they represented “27% of youth remanded, 36% of youth admitted to sentenced custody, and 24% of youth admitted to probation” (Statistics Canada 2010). Evidence also reveals that other minorities as well endure racial discrimination in the juvenile penal system despite the Young Offenders Act, which was created to provide a framework for equal treatment under the law.

These media representations are important considerations because these stereotypes are “important to understanding Whites’ reactions to minorities, particularly in the administration of criminal and juvenile justice” (Bridges and Steen 1998, p. 555). If the young offenders are from minority groups and viewed along very stereotypical lines, they “are seen as more villainous and therefore as deserving of more severe penalties” (Peterson and Hagan 1984, p. 67). This creates an uncomfortable relationship between the broadcasted, representational images and iconography of criminalization and the attitudinal disposition toward policing policies and sentencing procedures.

37.2 Media and Representation

37.2.1 Media Forms of Representation

In many, if not most, mainstream media representations, particularly news reports and documentary-style programming of crime and punishment, there exists a problematic, direct proportion: the darker one's skin, the more likely to be represented as (and therefore assumed to be) a criminal. Chiricos and Eschholz (2002) found that Whites are more likely to appear as officers or role models while Blacks are more likely to appear as perpetrators and criminals in the reporting of criminal behavior and the reenactment of crimes. Compounding the problems with this criminal assignment and assumption is the reduction in viewing minorities as victims "the underrepresentation of Blacks as victims" in addition to the "overrepresentation of Blacks as perpetrators on television" which "may have the effect of distorting viewers' perceptions of Blacks as being dangerous in our society" (Dixon and Linz 2000).

Such representations, and the frequency with which they are repeated on local and national news broadcasts, contribute to the genesis of a type of news coverage in which viewers can reasonably and reliably predict who will be starring in which roles—and ostensibly factual reporting starts to resemble a more fictive genre.

In the sensation-dripping evening news programs of the networks—CBS, NBC, ABC, and CNN—as they pant to keep up with the inflamed journalism of the tabloids—black and Latino youth appear metonymically in the discourse of problems.... You watch network evening news and you can predict when black and brown bodies will enter and when they will exit. The overwhelming metaphor of crime and violence saturates the dominant gaze on the inner city.... The mass media's story of inner-city black and Latino people pays short shrift to the stunning decline of opportunity and social services in the urban centers within the last fifteen years: poor public schools, chronic unemployment, isolation, the hacking to death of the public transportation system, the radical financial disinvestment in the cities, and the flight of jobs and resources to the suburbs. (McCarthy et al. 1997, pp. 236–37)

Rather than focusing or reporting on those larger sociological factors that contribute to the degradation of life for these youths, the sensationalizing approach intensifies the danger and paranoia, particularly for those viewers who have little contact with people represented in such broadcasts, affecting their attitudes (discussed in more detail in an upcoming section). This "new mood in political and social life in the United States [is] a mood articulated in suburban fear of encirclement by difference... The dangerous inner city and the world 'outside' are brought into the suburban home through television" (McCarthy et al. 1997, pp. 232–333).

Stories and reports set in urban neighborhoods also distort reality for viewers, particularly those who have neither lived nor set foot in these areas. The "real" as it pertains to lower-class, Black neighborhoods is not *actually* real but rather an embodiment of Baudrillard's hyperreal or "hyperreel" because it does not "distinguish between imitation and reality" resulting in a "ghetto then, as most experience it through mass media, [that] doesn't exist either. It, too, is reel. Wrenched out of its sociopolitical and racial injustice context, it is transformed into an urban playground" (Asante Jr 2008, p. 27), a projection of projects.

Another manner in which news broadcasts assert their credibility and are trusted as reliable is through the declaration that they are reporting “live” events. What media consumers need to recognize is that “this ‘live’ is not an absolute ‘live,’ but only a live effect [*un effet de direct*], an allegation of ‘live.’” This “allegation” is once more a result of conscious production:

Whatever the apparent immediacy of the transmission or broadcast, it negotiates with choices, with framing, with selectivity. In a fraction of a second, CNN, for example, intervenes to select, censor, frame, filter the so-called “live” or “direct” image. To say nothing of programming decisions, whether with regard to what is “shown” or who “shows” or manipulates it. What is “transmitted” “live” on a television channel is *produced before being transmitted*. The “image” is not a faithful and integral reproduction of what it is thought to reproduce. (Derrida and Stiegler 2002, p. 40)

The audience is not privy to the deliberations and machinations that occur behind the scenes, prior to broadcast, which result in how a story is *retold*. Derrida questions the authenticity of the reproduction and yet, for many viewers, that reproduction comes to stand for actuality and for truth, part of a public record adding to the perpetuated fictions that result in hardening attitudes and can impact lawmaking and sentencing. Semiotic inquiry leads us to question not only the message and the representation but also inquire into its formation and organization.

News reports are not the only source for the perpetuation of society’s continued (mis)understanding of crime and resulting punishment. The increasingly popular documentary-style television programs, which seemingly portray truth, contribute to this social dystopia because “these programs privilege the notion of a normalized, empirical reality, often beginning with the stark statistics of prison demographics and expansion” (Brown 2009, p. 74). Televisual depictions of imprisonment and confinement contribute not only to a viewer’s association with or understanding of prisons but also to an acceptance with their existence and practices. Gina Dent writes that

The history of visibility linked to the prison is also a main reinforcement of the institution of the prison as a naturalized part of our social landscape... Thomas Edison’s first films (dating back to the 1901 reenactment presented as newsreel, Execution of Czolgosz with Panorama of Auburn Prison) included footage of the darkest recesses of the prison. Thus, the prison is wedded to our experience of visibility, creating also a sense of its permanence as an institution. (qtd. in Davis 2003, pp. 17–18).

At the same conference in which she spoke to Abu-Jamal, Davis (2012) spoke about prison abolition and the difficulty with which that would be achieved, in large part because the existence of prison and its long history have associated with it that permanence Dent cites. We should see criminality and prisons, within a larger sociological context, for what they actually are, as Abu-Jamal suggests, rather than that which is projected on the screens, large and small. Further, that history informs the carceral images from which they have spawned. These depictions, according to Dent, constitute a “genre” with identifiable traits, the product of a “deeply structured cinematic legacy with specific tendencies, long-standing conventions and its own cinematic vocabulary” (Brown 2009, p. 58). Angela Davis believes that this media-mediated familiarity goes even further, claiming that mainstream examples

within this prison genre (citing, for example, the popular HBO series *Oz*) manages “to persuade many viewers that they know exactly what goes on in male maximum-security prisons” (2003, p. 18). Rather than a firsthand understanding of imprisonment, then, viewers have the reality defined for them even by fiction without stopping to consider that what they are seeing is a projection, and not what they would see.

37.2.2 *Media’s Power of Representation*

Michelle Brown extended the impact of such popular culture references to imprisonment to the attitudinal: “In American culture, citizens are much more likely to screen the prison rather than visit it. They are consequently familiar with imprisonment not through its institutional practice but its cultural representation” (2009, p. 56). Such impressions lead to and validate ideologies informed by the marketed idea that prisons are necessary for combating criminality and crucial to our democracy. Angela Davis expounds on this evolution, suggesting some ways its social history and investment have influenced policies:

[The prison in] U.S. society has evolved into that of a default solution to the major social problems of our times.... [I]mprisonment is the punitive solution to a whole range of social problems that are not being addressed by those social institutions that might help people lead better, more satisfying lives. This is the logic of what has been called the imprisonment binge: Instead of building housing, throw the homeless in prison. Instead of developing the educational system, throw the illiterate in prison. (2005, pp. 40–41)

Viewers of such media portrayals are at risk of being made to “wear glasses that force [them] to see the world divided up in certain ways [into] groups that can be mobilized, and that mobilization makes it possible for them to convince everyone else that they exist” (Bourdieu 2001, p. 249). Racially, those divisions contribute to White viewers feeling “more distant from Blacks as a group” (Gilliam et al. 2002, p. 755) and these projections, borne of those divisions, led White respondents living in overwhelmingly White neighborhoods to believe and perpetuate negative stereotypic evaluations of Blacks (Gilliam et al. 2002). The cumulative impact of criminal and penal iconography results from the multiplicity of messages and media forms that contribute to social knowledge for those people whose only familiarity with crime and penal punishment is mediated through secondary (or tertiary or even more distant) sources. When it comes to the carceral, this is increasingly problematic because the surveillance, arresting, and policing practices are already so racialized. Such law enforcement practices continue, however racial, because viewers believe those negative stereotypic associations such as Blacks with crime to be accurate and condone the discriminatory nature of the punitive and carceral. Wacquant (2002) addresses the crisis—a culmination of the history of incarceration, popular culture influences, broadcast representations, and an attitude toward practice and policy influenced by paranoia and fear (however inaccurate it might be):

In this era of racially targeted “law-and-order” policies and their sociological pendant, racially skewed mass imprisonment, the reigning public image of the criminal is not just that of “a *monstruum*—a being whose features are inherently different from ours,” but that of a *Black* monster, as young African American men from the “inner city” have come to personify the explosive mix of moral degeneracy and mayhem. The conflation of Blackness and crime in collective representation and government policy (the other side of this equation being the conflation of Blackness and welfare) thus re-activates “race” by giving a legitimate outlet to the expression of anti-Black animus in the form of the public vituperation of criminals and prisoners. (Wacquant 2002)

For criminalized African American youth, such conceptions are troubling and any inaccuracy is largely left unexplored, unquestioned. There is little incentive, though, to move beyond the representations and resulting assumptions because the distance between viewer and projection “affords spectators a space in which they need not do many things, including engage the complexities, contradictions, and tragic qualities of punishment nor reflect upon their own role in its formation” (Brown 2009, p. 193) but it is critical that we begin to investigate the manner in which media informs us and, vice versa, how we might inform those stereotypes, thereby contributing to such representation of these youth. Gilliam et al. concluded that “in modern society the media are perhaps the most pervasive of [impersonal influences]” and “are likely to play a significant role in the development of racial attitudes” (2002, p. 757) despite the fact that this “fausse consciousness in Sartre’s sense, that television produces, which results in attitudes toward the real world that are unrealistic, illusionary, and even harmful” (Esslin 1982, p. 72).

This pervasiveness, “harmful” thought it might be, has moralistic implications as it defines boundaries of acceptance/intolerance for the rest of society: “Under the rule of monopolistic media—themselves the mere instruments of economic and political power—a mentality is created for which right and wrong, true and false are predefined wherever they affect the vital interests of the society.” (Marcuse 1965) The productive aspects of media create the impression of truth, and once these images are accompanied by utterance, “television attains meaning” (Corner 1999, p. 41) and the representations are filed and anthologized in the stereotypical. The process of production, as mentioned earlier, since it happens behind the scenes and often does not factor into the opinions of the viewers. Nevertheless, this step is a judgment on the part of editors and producers even though viewers are not aware. Stuart Hall noted that the broadcast media produces “representations and images of the social world, provide and selectively construct social knowledge, and order a complex world by making it seem natural or by distilling complex meanings” (Hall qtd in Fuller 2005, p. 280). This simplistic distillation “abolishes the complexity of human acts, it gives them the simplicity of essences...it organizes a world which is without contradictions because it is without depth, a world wide open and wallowing in the evident, it establishes a blissful clarity” (Barthes 1973, p. 156). The result is not truth, but commentary disguised as truth; the objective, then, becomes quite subjective and the broadcast news media cannot be counted on to accurately depict actuality; the best we can seem to hope for is what Baudrillard called the “reality effect” (Baudrillard 1983, p. 3) and interrogate the productive aspects and question our own understanding so that we mitigate the manipulation by those who

fabricate, people who have the productive power and choose on our behalf (Derrida and Stiegler 2002, pp. 137–38).

Stuart Hall (1980) calls this an “ideological power” which is, as he defines it, “the power to signify events in a particular way” (Hall 1982, p. 69). Viewers of this visual discourse need to understand that the medium is “naturalized” and not “naturalistic” (Hall 1982, p. 75). This distinction is absolutely key; even though it might appear as a “discourse of fact, statement, and description,” the depictions have had an intervention of “coding, selection, [and] arrangement” (Hall 1982, p. 75–76). Semiotics and cultural studies provide a means and a language for moving beyond the appearance of fact, the *naturalistic*, and into the production of fact, the *naturalization*. Such analysis is important because “the discourse of the public transcript is a decidedly lopsided discussion...a highly partisan and partial narrative. It is designed to be impressive, to affirm and naturalize the power of dominant elites” (Scott 1990, p. 18). In this particular instance, the dominant media elites have legislative and imprisoning power, albeit indirectly, over oppressed minorities criminalized and sentenced by a system that includes signs and understanding more indebted to representation and projection than “what we see.”

37.2.3 *Semiotic Urgency in an Era of Racialized, Mass Incarceration*

The importance for an informed deconstruction and “television criticism” (Esslin 1982, p. 112) of these representations grows in importance as the daily consumption of media, in all of its variant forms, increases, commensurate with the numbers of the imprisoned. But moving beyond an unquestioning acceptance of depictions we see in film and on television is not an easy task, because this consumption takes place within a framework that has been meticulously designed and becomes similar to Baudrillard’s code (1988), a collection of signs or social ideals that attain significance or meaning through practice. We are not meant to be aware of these, for

The ultimate aim of news production [is] to erase the mechanistic construction and to make the “Real” appear as if it reveals itself. Thus, not only is the perceived and symbolic “reality” of the “world in news” sacrificed to the mechanistic artificiality of the news production process...but that very process is then magically dissolved in the transmission of that event. (Hemmingway 2004, p. 418)

Kellner points to cultural studies as “an interdisciplinary, transdisciplinary, and counterdisciplinary approach that can be used to address a wide range of cultural phenomena from advertising to political narratives” (2008, p. 10); semiotics, an important branch of cultural studies, is uniquely equipped to provide such analytical transcendence and contemporary incarceration is certainly a phenomenon that I think does more than exist on the spectrum “from advertising to political narratives”—it is undoubtedly a connection between the two, with an intimacy seemingly growing. Thus, Kellner insists upon a need “for media literacy and critique, learning to read newspapers, TV news, advertisements, TV shows, and the like—

just as one learns to read books” (2008, p. 10). All of these genres and forms of representation are part of the “potent mass media concoction of pop music, film, television, and digital content” which now serve as the “the primary transmitters of values and culture...produced and disseminated through a small handful of multinational corporations” (Asante Jr 2008, p. 18).

Without interrogation, criticism, and analysis of these practices, we risk the perpetuation of a “youth control complex...an ecology of interlinked institutional arrangements that manages and controls the everyday lives of inner-city youth of colour” which has “a devastating grip on the lives of many impoverished male youth of colour” and continues to promote the “hypercriminalization of Black and Latino youth” (Rios 2007, p. 30). For my participant youth (and, I suspect, other criminalized youth), their perspectives are as important as those of judges and parole officers in the definition and conception of “criminalized” youth and yet their voices are conspicuous in their academic absence. The youth themselves sense the same silencing, prompting one youth with whom I worked to tell me, quite frankly, as we were out in the “yard” one day: “Don’t nobody give a shit about us. The POs [parole officers] don’t give a shit; all they care about is a fucking paycheck. And nobody else cares or gives a shit what we think—ain’t nobody askin’ us shit.”

McCarthy et al. have already established the damaging, metonymical, and hyperrealistic racialized aspect of reported/re-created coverage of crime. For the juveniles, who are not asked shit, that irresponsible media perpetuation coupled with their silence becomes a larger crisis for youth. Ginwright and Cammarota note that much of the public has been “led to believe that young people create more problems than possibilities” which leads to “public policy that tends to view them as delinquents, criminals, and the cause of general civic problems.” Offenders, “particularly urban youth of colour, are a menace to society and therefore need to be controlled and contained” (2002, p. 82) and, in the case of my participants, detained, because “the manner in which juvenile crime has been handled by the media displays the sharp contrast between how White youth and youth of colour are perceived by the American public” (Williams and Sapp-Grant 2007, p. 331).

If the discussion of the criminalization of youth is to include truth in addition to perpetuated fictions, then it is time we start asking them shit.

37.3 Conclusion

Cultural studies’ means of deconstruction and analysis, including the semiotic, provide a means to “[problematize] the notion of a one-way interaction between the subject and the purported object of the fantasy or gaze” and any “avowed identification (and implicit dis-identification) with ‘racial’ or ‘subaltern others’” (Jay 1993, p. 272) that results from such uncritical media consumption. The social risk without such interrogation is the perpetuation of these stereotypical depictions and its resulting metonymy. The images inform viewer consciousness and influence assumptions that color our ideas about crime, hardens attitudes toward the practices

of incarceration, and shapes legislation that have contributed to the strained racialization of imprisonment, for adult and, in some ways more distressing, youth populations:

There is no question that sophomoric presentations on the overrepresentation of African American and Latino populations in secure correctional facilities have resulted in dangerous public policy that builds on the perception that people of colour perpetuate most crimes. In 1996, most of the individuals arrested for a violent criminal act were White (54.6%, but African American juveniles accounted for virtually all increases in the rate of detention between 1985 and 1994. (Williams and Sapp-Grant 2007, p. 329)

Most incarcerated youth, including all six of those participants in my study, have lived much of their lives on social, educational, and economic margins, and have increasingly become the target of the carceral apparatus (Giroux 2009). In order to combat that, the narratives and perspectives of these kids need to be anthologized and recognized alongside of those with more authority (e.g., lawyers, judges, law enforcement officials, parole officers) and those constructed and perpetuated by broadcast media.

Pairing a more individualized awareness of these storied lives, and not accepting those highly generalizable mainstream projections uncritically, with a culturally structural analysis and discussion (Giroux 1983) extends cultural theories which provide “a sense of texture of individual lives” but typically fail “to contextualize attitudes and behaviour as responses to objective structures” (Macleod 2008, p. 150). The implications necessarily reach beyond the carceral, including when it comes to youth and highlights the impact all of those subordinating and sociocultural authoritative spheres (e.g., home, neighborhood, law enforcement) that lead up to a culminating incarceration. Moving beyond solely imprisonment (which cannot contain all that is criminalizing), then, this “task suggests reforming those primary institutions such as schools, the mainstream media, and the criminal justice system” which also contribute to the “punishing state” (Giroux 2009, p. 105).

The prevalence and authority of punitive iconography needs challenging, then. It contributes to a social distance that impairs progress and codifies knowledge into a totalizing entity where an “essential” (Faith 1993) prisoner might reside. Its “incredibly privileged and salient role” results from its presence in “films, television, games, and the Internet” and end up serving “as our first access points and cultural resources from which to make sense of punishment and its proper place in the social order” (Brown 2009, p. 193). These productions emanate and preside from above because penalty and poverty have “not receded, but the social visibility and civic standing of the troublemaking poor have been reduced” (Wacquant 2009, p. 292). Rios issues, however, an important warning for this work:

If we are to support poor youth of colour in this era of mass incarceration and the decline of the welfare state, adult allies should be critical of their interactions with criminalized youth. Otherwise, we may be perpetuating the very force we are attempting to dismantle—the hypercriminalization of our youth. (2007, pp. 30–31)

I would include in those “interactions with criminalized youth” our virtual interactions with media representations of criminalized youth because for most people, that is either their introductory or lone experience with these kids, adults, and prisons.

Ultimately though, an interrogating culture of reception contributes to other ways of formulating the question of the cultural exception. The dilemma here is to rethink or think otherwise about what Hollywood and broadcast news has done up to this point in the domain of the culture industry, to which cinema and television belong. For what it has done, it has done in accordance with a “reifying schema, and by opposing production to consumption, that is to say: by putting analysis on one side (production) and synthesis on the other (consumption)” (Derrida and Stiegler 2002, pp. 162–163). Derrida goes on to illustrate how he believes technology can “modify this relation” but it is not the only one. If there was one consistent refrain to which my participants returned, it was their desire to be asked why they made the choices they did, the opportunity to be heard. The introduction of their narratives and perspectives challenge accepted notions of the stereotypical. As Fisher, a 16-year-old African American male in my work phrased it—we should not strictly rely on mediating influences to teach us about others, instead “you should *ask* [emphasis added] other people because they probably live that lifestyle and that’ll make you understand some things about other people.”

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Jonathan Arendt is a recent Ph.D. graduate from the Ontario Institute for Studies in Education at the University of Toronto. Jonathan’s research interests in educational equity and access, particularly as they relate to class and race, began during his years in high school classrooms in Louisiana and Texas, teaching literature. His current research studies the various forms and impact of subordination in the lives of incarcerated youth; aside from this particular topic, he has published in areas of media studies, critical literacy, visual ethnography, and the socioeducational.

Chapter 38

Applied Cultural Semiotics, Interculturality, and Action-Research

Roger Parent

The collaborative coexistence of multiple cultural views, moral orders, and rationalities in contemporary democracy calls for effective processes and methods by which these multiple perspectives can effectively integrate everyday decision-making, problem-solving, and social planning processes at all levels of society. To this end, evolving educational perspectives on the phenomenon of culture (Abdallah-Preteille 2006) provide innovative capacity building, analytical and communication principles, and skills by which academics, professionals, and community representatives can collectively respond to challenging needs in a culturally diverse society. Broadly defined, interculturality emphasizes shared projects and exchange processes between individuals and groups from different cultural and linguistic backgrounds. Emerging initially from the educational sciences, this interdisciplinary paradigm of study places particular emphasis on practices that favor the development of understanding, equity, and social justice, whereas multiculturalism referred more to the peaceful coexistence of multiple cultural groups in a society and became later evocative of subsequent marginalization, powerlessness, and loss of status (Lasonen 2005).

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R. Parent (✉)
Campus Saint-Jean, University of Alberta,
8406–91 Street, Edmonton, Alberta, AB T6C 4G9, Canada
e-mail: roger.parent@ualberta.ca

Within the broader arena of qualitative research enquiry, intercultural issues pertaining to social inclusion, visibility, and representation in mainstream democratic society echo this call for practices by which cultural knowledge may be defined, determined, and translated into effective know-how and intercultural skills as manifestations of what some academics qualify as “radical democratic performance” (Peshkin 1993). Crossing this divide from academic knowledge to contextualized praxis and performance texts challenge researchers and communities alike to address the multidimensional nature of culture-related questions and dilemmas. Current models coming out of intercultural education and training programs prudently recognize that such issues are deeply layered (Milhouse 1996). In other words, they go beyond cognitive or platonic constructs and represent deeply emotionalized and internalized reactions or “triggers” which factor into the management of sometimes explosive combinations of norms, values, and belief systems within a given situation:

How do we move the current generation of critical, interpretive thought and enquiry beyond rage to progressive political action, to theory and method that connects politics, pedagogy, and ethics to action in the world? (Denzin and Lincoln 2005, p. x)

Intercultural approaches to education are consequently emphasizing analytical and communicative practices for dealing with the multidimensionality or multiple levels involved in simultaneously grappling with cultural issues on the cognitive, affective, and behavioral levels. These learning models have thereby prioritized the development of meta-cognitive skills (learning to learn about culture) in preparing academics and professionals to better respond to the needs of culturally diverse populations (Bennett 1986).

As the current “era of information and communication” continues to generate, in staggering abundance, multiple varieties of texts, hybrid discursive models, specialized jargons, and increasingly sophisticated communicative technologies, the fragmented worldviews and conflicting ideologies of what some refer to as post-modern and postcolonial societies (Grenz 1996), call for interdisciplinary lenses by which these polysemic, and often conflicting, messaging streams may be perceived and processed within the academic disciplines as well as by decision makers and cultural stakeholders. This information-based interpretive dilemma raises important theoretical and methodological issues as to how significant culture-related data may be recognized as such, processed, and transformed through intercultural communication and education, into effective capacity-building and problem-solving methods and action plans in culturally specific environments, including those pertaining to the organizational structures of the social systems concerned. As its entry point for discussion on these issues, the following study adopts the basic tenants of cultural semiotics in light of its seminal role in fostering a heightened understanding of collective sign systems.

This branch of the discipline formulated its initial premises with the publication of a collective work entitled *Theses for the Semiotic Study of Cultures* (Ivanov et al. 1974). Largely attributed to the pioneering work of what is now referred to as the Tartu School, this body of scholarship nests within a larger paradigm shift

that occurred in the second half of the twentieth century. This sea change progressively questioned modernist, neopositivist views on the limits of experimental and exclusively quantitative or “gold-standard” modes of enquiry for coming to grips with the complex social, ideological, and cultural issues characteristic of modern-day society, including those of oppressive and totalitarian regimes. Such approaches have proven incapable of

examining the complex and dynamic contexts of public education in its many forms, sites, and variations, especially considering the [...] subtle social differences produced by gender, race, ethnicity, linguistic status, or class. Indeed, multiple kinds of knowledge, produced by multiple epistemologies and methodologies, are not only worth having but also demanded if policy, legislation, and practice are to be sensitive to social needs (Lincoln and Canella, 2004, p. 7)

Sometimes referred to as the “pragmatic” shift in the definition and production of knowledge, this evolution in the academic disciplines emphasized the production and application of knowledge and know-how in terms of the beneficiaries or users.

It is of note that these interpretive, praxis-oriented stances for working collaboratively with cultures, as initially foreseen in Geertz’s groundbreaking work *The Interpretation of Cultures* (1973), emerged in qualitative research at approximately the same time that the founding principles for cultural semiotics were published. Largely attributed to what is sometimes referred to as the “invisible college” surrounding Juri Lotman and his Slavic colleagues behind the Iron Curtain, cultural or text semiotics fundamentally, and subversively, proposed analytical principles for the phenomenological study or interpretation of cultures as constantly evolving sign systems.

At the heart of this poststructuralist reflection (Nöth 1995) can be found the concept of “text” which designates “cultural messages” or performance-based works, be they art works or business plans, to which collective signification is initially attributed by members of that culture in a specific socio-temporal context. In the semiotic view of cultural change, evolution stems from the creation of new “meaning,” as signified or articulated through texts. For Tartu cultural semiotics, the object of study is not limited to existing signifying practices and products but extends out to the understanding of such meaning as necessarily incomplete, as a work in progress in relation to the cultural creativity of the collectivity (Torop 2005, p. 169). Popular speech intuitively evokes this transition from “meaning” to articulated signification through performance-based text production by such expressions as, “If it ain’t on the page, it ain’t on the stage.” Stated otherwise, intangible abstractions need tangible and collectively meaningful expression to become culturally meaningful or significant in the development of a community. As Denzin and Lincoln point out, “writing itself is not an innocent practice” (2005, p. x).

By examining the means by which modern, democratic societies develop institutional and organizational processes for transforming multifaceted information into decisional and policy-making action plans (or texts), the proposed three-part analysis will illustrate how the pragmatic shift in information and knowledge management has reinforced cultural or text semiotics’ systemic approach for tracking, studying, and stimulating sociocultural change. The analysis begins

with an overview of the emergence and development of think tanks in modern democracy as institutionalized, “top-down” organizational units for transforming interdisciplinary academic knowledge into texts related to articulation of government policy. This summary outline then sketches out the counterpart of “bottom-up,” community-based approaches to problem solving and action-research where, once again, mutually agreed-upon scenarios for social change, or texts, provide an articulated collective response to a particular issue. In the continuum established by both models, formal space and systemic processes provide space, resources, and the opportunity for interdisciplinary dialogue and exchange by which issues pertaining to multileveled information streams can be studied and negotiated through the intersectorial representation of academic, professional, and government representatives in a concerted attempt to solve specific issues and to influence decisional process in various sectors of society through creative action. The third section further examines the semiotic and educational challenges of creativity and innovation in the interdisciplinary problem-solving process as an ongoing quest for text production by which to express and communicate new or renewed meaning from the perspective of the academic and cultural communities concerned in social initiatives. Considered in this light, semiotics, as foreseen by Morris (1971), serves as an effective repertoire of analytical and communicative processes for interpreting cultural signs and information (verbal and nonverbal) across the disciplines (67).

In discussing the challenges specific to cultural evolution and exchange, interdisciplinary parallels between the disciplines illustrate how the pragmatic shift in knowledge production and information management increasingly questions the conventional hypothetico-deductive model for problem solving across cultures and organizations. As a viable alternative, organizational theory continues to move towards an emerging systems paradigm, often referred to as “whole systems change” or as “large group interventions” for initiating, through education and field-based involvement, innovative and culturally significant social action and text production, thereby reinforcing the seminal value and potential of cultural semiotics for contributing to applied research initiatives related to cultural diversity and intercultural education. Concluding remarks frame the preceding analysis in relation to the equally seminal influence of Kurt Lewin’s ideas and methods on action-research for social change and to the complementary potential of cultural semiotics for organizational approaches to interculturality and for transcoding often conflicting perspectives into texts or messages that articulate new forms of knowledge and applied know-how.

38.1 Think Tanks and “Top-Down” Research Networks

As the complex living conditions in modern democracy call on academic communities to examine and question the manner in which they define information and knowledge, this “ivory tower” dilemma also raises the thorny issue of the relationship between forms of “scientific” research and sociopolitical hierarchies.

Think tanks appeared as formal research institutions to meet this need, at least in part, for communicative and collaborative networks between academic disciplines, or “silos” to which they are sometimes referred, and government on issues of governance and socioeconomic power. In an article entitled “Recycling bins, garbage cans or think tanks? Three myths regarding policy analysis institutes,” Diane Stone (2007) compares the initial mandate of think tanks to the many hybrid forms, and myths, that have subsequently developed internationally as governments and corporations alike continue to seek ways of merging the management and production of scientific knowledge with political and economic decision making.

38.1.1 Think Tanks: Definition, Mandate, and Evolution

Think tanks first appeared as institutionalized units of research at the end of the First World War in England, the USA, as well as in member countries of the British Commonwealth such as Canada and Australia (Smith 1991). The expression “think tank” was coined at the beginning of Second World War in relation to certain organizations such as the “Russell Sage Foundation” and the “Council on Foreign Relations.” At the outset, the term “think tank” was used as a label to designate research institutes, like the RAND Corporation, that were associated with the American Armed Forces. These units provided a secure and closed or “sealed” environment where experts from specific fields of knowledge could meet and discuss questions pertaining to military strategy and national security (Weaver 1989). The attributes of veiled security and of privileged membership evoked the image of elitist organizations capable of gathering prestigious representatives from academic research and from the political sphere on questions of state. This triangular, intersectorial relationship between power, knowledge, and government characterized the fundamental definitions of think tanks as “organizations engaged on a regular basis in research and advocacy on any matter related to public policy. They are the bridge between knowledge and power in modern democracies” (UNDP 2003, p. 6).

Various forms of think tanks thereby sought to legitimate their activities by defining themselves as “bridges” or intermediaries by which to cross the preestablished, though somewhat fuzzy, boundaries separating the military, academic and government sectors (Halfmann and Hoppe 2004). Think tanks endeavored, at least in theory, to provide a private and secure haven where linkages between these three sectors could be forged and where relative, although somewhat ambiguous, neutrality or autonomy could be maintained between the representatives assembled. Originating out of Anglo-American liberal democracy, multiple hybrid forms of think tanks then rapidly spread to other countries such as Russia, Latin America, Europe, and Africa during the second half of the last century. Owing to the wide diversity of these variants, contemporary research cannot rigorously establish their existing typology (Ladi 2005).

Under the influence of the multiple political and academic structures that have adapted them to the specificity of their needs, the signification originally attributed

to think tanks has evolved considerably. However, the term still fundamentally refers to a socio-temporal context that allows a group of experts to undertake in-depth studies of topics related, closely or at arm's length, to the political and legislative order of a country. Some of these organizations affirm their impartiality with respect to the problems under study and to agencies requesting their specialized services. However, as Stone points out, "others are overtly partisan or ideologically motivated [...] routinely engaged in the intellectual brokerage and the marketing of ideas" (262). Although think tanks continue to serve as bridges between knowledge, power, and society, the borders that separate the three poles of the triangle are not necessarily impermeable and remain subject to ongoing negotiations (272).

38.1.2 *Myth and Reality*

Stone argues that this triangular negotiation contradicts the image or myth of the so-called scientific and technological impartiality that think tanks would like to portray of themselves. In light of their exclusive and "sealed" character, of the privileged status of their members, these elitist organizations often contain public debate, particularly at the international level where associations such as the United Nations use them as the "gate-keepers [...] potentially becoming a barrier between NGOs seeking more direct access to UN personnel and procedures" (269). Stone concludes that think tanks do not necessarily serve the common good of society. If their primary function seems that of incubating new ideas, this reflective, behind-the-scenes brainstorming also markets existing research and can potentially and considerably influence specific segments of a population. Think tanks also "vulgarize" or recycle abstract academic research in order to make findings more palatable to politicians and government bureaucrats as well as to a restricted audience of educated decision makers and journalists. Ultimately, this brokering of influences favors the potential sale of solutions to legislators in search of problems. This exchange between knowledge and power, concludes Stone, is not apolitical but rather constitutes social practice that covers itself with a "patina of scientific objectivity and technocratic neutrality" (275).

In a review essay entitled "Politics Dressed as Science: Two Think Tanks on Environmental Regulation and Health," Gildiner (2004) reinforces Stone's affirmation in relation to two studies¹ concerning possible environmental effects on public health. The authors concerned were directly or indirectly related to an ideologically oriented think tank: the Fraser Institute. Gildiner's review takes issue with the usage of "the languages of science and economics [as] strategically selected vestments and smoke screens" (321) by which to transmit the authors' bias as well as those of the think tank involved and the political and economic interests served through this

¹ Jones, Laura (Ed.) *Safe Enough? Managing Risk and Regulation*. Vancouver, BC: Fraser Institute, 2000.

Lichter, Robert S. and Stanley Rothman. *Environmental Cancer—A Political Disease?* Hew Haven, CT: Yale University Press, 1999.

institute. Such abuse of public confidence, argues Gildiner, further undermines the integrity of science with respect to collective values, the specialized knowledge of the researcher in relation to other forms of knowledge, as well as the integrity of democratic process and political policy making. Both Gildiner's and Stone's critiques highlight the underlying paradigm that unites high-ranking representatives of sociopolitical power, academic knowledge, and military capacity under the same roof: that of governance (Börzel 1998; Kickert et al. 1997).

38.1.3 Think-Tank Networks

Over the course of the past decades, the international proliferation of think tanks has given rise to research networks, the scope and growth of which, in North America and Europe, further blur the specificity of this phenomenon. Be they formal or informal, ad hoc or virtual, these networks pursue the fundamental mandate of the original think tank: to facilitate scientific and technological reflection on questions relating to political issues. In this sense, the encompassing principle of governance well illustrates the core multidimensional aspects of data and information that are merged in the process of conceptualizing, articulating, and disseminating studies capable of potentially influencing new political legislation.

38.1.3.1 Homogeneous Research Communities

Authors such as Struyk (2002) claim that the specificity of any think tank resides in its mandate to converge the intersectorial influences of politics, science, economy, and technology towards a common perspective. Struyk distinguishes between heterogeneous networks that facilitate public consultation and mediation between various sectors of interest and homogeneous types of networks that, as the conventional think tank, are "composed of organizations with a shared perspective" (83). It is important to note here that, under the auspices of the concept of community, homogeneous networks seek to consolidate alliances and resources so as to attain a common goal that, directly or indirectly, touches on questions of governance and government policy. Struyk compares these homogeneous research communities to professional associations that interpret sociocultural and legislative issues through the lens of shared belief systems.

38.1.3.2 Methodological Think Tanks

Katerndahl and Crabtree (2006) use the expression "methodological think tank" to designate a form of networking, prevalent in the medical sector, to assemble in punctual fashion over several days, researchers from different disciplines in view of putting together a team capable of developing new methodological approaches

to complex problems. As its initial objective, this approach aims at conceptualizing innovative research projects that can possibly attract the favor of funding agencies. This kind of think-tank network reinforces the fact that researchers face complex problems that go beyond the methodological advances in their respective disciplines. Instead of attempting to make a project conform to existing methodologies, these networks encourage innovative and interdisciplinary research strategies based on the assumption that these approaches will benefit from their competitive, interdisciplinary edge.

The methodological think tank introduces two additional and significant thematic elements: the growing importance of creative process in research and the emergence of a sense of community in the development of innovative modes of enquiry capable of better meeting the needs generated by complex social problems. In this type of research community, researchers must learn to handle the tension caused by the paradoxes and contradictions inherent to the incubation of new ideas and creative process. The establishing of what Katerndahl and Crabtree (2006) categorize as “communities of enquiry” (444) further entails collective evolution and growth on the part of participants as well as mapping or tracking processes by which the team’s trajectory into unknown territory can be guided and facilitated. In reference to models such as developed by Peck (1987), the authors integrate the additional dimension of group dynamics into the research processes. Participants are trained not to avoid conflict but rather to face it and to confront the chaos and the unknown factors engendered by their respective disciplinary differences. Researchers subsequently learn to abandon their academic positions and their desire for control in order to create the feeling of an authentic community of research.

38.1.3.3 Heterogeneous Research Communities

Other researchers apply the label of “think tank” to heterogeneous research associations (Bennett et al. 2011). An important number of health policy analysis institutes fit into this category and basically aim at informing and influencing government decision makers on health-related issues. This type of think tank has experienced considerable growth in low-income countries. Such expansion can be attributed partly to democratization and new community technology. These authors argue that this form of research community offers the advantage of an external perspective that is often more specialized and circumspect than that provided by internal government studies. In addition, heterogeneous networks have become known for the credible and socially relevant information they generate. And the personal relationships developed between researchers and decision makers appear conducive to the practical nature of the recommendations proposed. However, such institutes require a certain degree of financial independence and of freedom with respect to their internal organization. Moreover, Nennett and her colleagues warn that the concrete outcomes produced ultimately depend on the motivation and the capacity of the governments to act (1).

38.1.3.4 Current Situation

In the final analysis, the different forms attributed to think tanks and to their respective mandates have expanded to the point that the phenomenon now escapes systemic description and categorization. These forms can range from formal university-based research units, such as the Carter Center in the USA, to more ad hoc educational strategies for fieldwork and applied research (Broughton 2011, Peel 1998). In spite of their diversity, these multiple variants present recurrent features: a collective as opposed to an individual mode of enquiry, a defined area of research, a bridging process between academic knowledge and political representatives, as well as an intersectorial brokering of ideas and influences.

Displaying either a homogeneous, methodological, or heterogeneous form of political and professional affiliation, these organizations find themselves conditioned by the multidimensional sociocultural contexts in which they operate. This multidimensionality is political, economical, ideological, academic, and technological. These research communities and networks cover a wide gamut of possibilities, from academic publication to scientific vulgarization and the “sale” of ideas. Overall, they seek to contribute or to give the image of contributing a certain academic rigor to often controversial political and social problems. Symptomatic of the age of information and communication, think tanks respond to the contemporary society’s needs to manage, according to multiple filters and discursive practices, an overabundance of data, often fragmented and contradictory, in the quest of epistemes that could justify a subsequent political decision. Ultimately, this quest leads to the convergence of research activities towards ad hoc interdisciplinary communities of enquiry oriented, not to existing knowledge, but to the formulation and communication of new significations and of new applications for such yet-to-be-determined knowledge.

38.2 The Concept of Community in “Bottom-Up” Interdisciplinary Research

Overall, think tanks fulfill an ambiguous and unstable discursive function at the crossroads of academic knowledge, technology, political power, and social policy. The core factor of this multidimensional function lies in the interdisciplinary and intersectorial governance and creation or social application of academic knowledge to issues of public concern. The finality of this governance role lies in establishing bridges or linkages by which to foster exclusive and privileged dialogue and exchange between highly regarded researchers, technological “experts,” decision makers as well as limited, segments of the population. This predominantly elitist access to knowledge and power is further acerbated by the formal downside inherent to the institutional workings of universities and that John Abele, cofounder of *Boston Scientific*, evokes in his article “Bringing Minds Together” (2011):

Academic collaboration, I've learned over the years, is something of an oxymoron. More often than not, what is described by that term is really noncollaborative, or worse, pseudo-collaborative work, driven by long-standing rituals of institutional seniority and the professional and financial incentives to build higher silos with thicker walls (86).

Recognized for groundbreaking innovations in the health sector, Abele's critique of academic systems remains however motivated by what he considers as a university's inherent potential to innovate and to create, as an ideal place in which to incubate courageous solutions to important problems.

As a "nonacademic," Abele attributes his professional success to a capacity for tapping into the potential of university systems by favoring "the wisdom of crowds" (89) and by provoking "collisions" between the silos of academic knowledge (86). This strategy has allowed him to establish interdisciplinary and intersectorial research communities that group together representatives from the scientific, medical, and economic sectors. He also attributes the quality of the innovations brought about by these teams to the new relationships created by independent and often rival participants and not from the sharing of existing knowledge between the disciplines involved. In achieving this level of collaborative enquiry, participating researchers had to demonstrate the will required to "unlearn" and learn anew, thereby running the risk of losing acquired status and power. In generating new signification based on innovative combinations between individuals from different and specialized fields of knowledge, the key to success proved not the negotiated brokerage between influential representatives of predetermined sectors of influence, as in the majority of think tanks, but rather the capacity of the research unit to manage the unique combination of human resources assembled in that particular team.

Once again, the metaphor of the bridge, central to the think-tank principle, surfaces but, in this context, aims at provoking the creation of significantly new products and services by going beyond the specialized and fragmented knowledge in various academic disciplines. Interdisciplinary research teams within the university setting also favor similar "collisions" between academic silos (de Melo-Martin 2009). The creation of these research teams finds itself often related to the ethical, social, and environmental problems engendered by research in the biomedical fields, the social sciences, and the humanities. As with the conventional think tank, these widened interdisciplinary perspectives resulting from the cross-fertilization between the specialized fields of study lead to questions of policy making and governance (39).

38.2.1 Governance and Social Capital

These examples seek to illustrate innovative approaches to collective enquiry that appeared in the second half of the last century. Without necessarily being labeled as think tanks, research methodologies developed for redefining and questioning criteria by which to define or redefine knowledge through the systematic integration of multiple community perspectives into the theoretical and methodological

framework of applied research initiatives. The basic notion of multidimensional relationships inherent to think tanks extended out to a wider public in an attempt by researchers to achieve more inclusive, interdisciplinary forms of representing local communities and groups in subsequent knowledge management and development. By creating research partnerships with civic, professional, and cultural community representatives, these advances in qualitative research subsequently led to the widening of what has been referred earlier to as “ad hoc think tanks” and “communities of enquiry.”

In essence, these collaborations broke out of the narrow mold of social contracts maintained by exclusive political and academic institutions in an effort to respond more adequately to ethical and social dilemmas, as well as to facilitate wider access to developmental opportunities made possible by a more effective integration of new communicative technologies into research. Fundamentally, this “bottom-up” approach contested, or at least questioned, the existing limits of academic knowledge because of its often-privileged links to instances of power and to social hierarchies. Academic knowledge became thus considered as being itself a form of institutional power, hence the redefining of information based on a change in perception that valued individual initiatives and the plurality of cultural “voices” in designing and implementing initiatives for social change in specific contexts.

A key concept in this paradigm shift to the pragmatic definitions or redefinitions of knowledge became that of social capital (Woolcock and Narayan 2000). This principle called for the development of modes of research enquiry capable of fostering a feeling of belonging in and to a community: “people with a range of social networks are more likely to pull together for the common good of their communities” (Piasecka et al. 2010, p. 182). Studies, such as those by Wallis et al. (2004), demonstrated the relationship of causality between a community and the mobilization of networks needed for collective action and for the creation of “governmental social capital.” In this regard, Piaseck, Pettrigrew, and Ryan insisted particularly on the role of local governments in the promotion of inclusive democratic practices, particularly at a time of “growing public distrust with government officials [and] local governments in western democratic societies around the world” (180). The authors further emphasized the fact that persons and groups whose cultural origins and languages differed from the dominant social norm seemed more inclined to perceive government programs as corrupt, incompetent, and exploitive. Such perceptions consequently lead to feelings of powerlessness and of fatalism.

38.2.2 The Social Contract and Knowledge Management in Culturally Diverse Societies

Issues relating to the quality, the type, and the source of information by which knowledge was being subsequently formulated in contemporary democratic societ-

ies further specified into related questions of communication and access. Research modes of enquiry began exploring how the information could be communicated equitably and effectively in and across academic and political borders in order to “think locally, regionally and globally and develop multilevel democracy for multilevel governance” (McIntyre-Mills et al. 2008, p. 306). This quest for participative democracy in academic research recognized that the social contract, in its existing form, “is too limited to take into account the needs of the powerless” and called for “the political will to do things differently” (pp. 316–317). Researchers faced the challenge of providing communities with wider and more equitable access to new information and advances locked up within the specialized jargon of the academic disciplines as well as to more inclusive, non-elitist communication networks for the dissemination and application of such information.

The fostering of authentic public involvement in democratic process through applied field research called for new systems and modes of enquiry by which to better manage knowledge and to include the cultural perspectives of suppliers, service providers, and beneficiaries involved in specific community-based research initiatives. In turn, this form of knowledge management favored participatory research methodologies that could integrate and transcode knowledge across multiple cultures in the elaboration of future government policy. The resulting capacity of multicultural societies to simultaneously merge multiple points of view underscored once again the semiosis (creation and communication of meaning) inherent to generating and communicating knowledge that could go beyond the conventional range of think tanks and of other “top-down” approaches “in the process of problem definition and problem solving” (p. 313).

38.2.3 Organizational Learning

From the decision makers’ perspectives, this challenge of managing multiple collective perspectives within the same unit or host population also necessitated the creation of systemic environments by which to effectively interpret and to process the complex data obtained for the future benefit of the common good. Hall and Paradice (2007) pointed out that these diverse points of view represent, in effect, models of the world. In other words, if these perspectives are a way of “seeing,” by the same token they also become a way of “not seeing” (p. 82). Ideally, decision makers need recourse to information systems by which to widen their individual perspectives and better cope with complex choices involving multiple stakeholder groups. However, the capacity of these decision makers to acquire a global, holistic view for intercultural decision and policy making also carries the risk and obligation of shaking up and questioning personal values.

As these modes of perception (axiological systems) are profoundly rooted in the lived experience of participants, the authors warned that individual value and belief systems could lead to decisional myopia and give rise to contradictions between the publicly stated policy (theory adopted) and the actual action plan deployed (theory

implanted; 84). Faced with this organizational challenge as well as the existing need on the part of stakeholder groups for greater “bottom-up” policy-making decisional processes, applied modes of enquiry aimed at creating environments in which decision makers could set up processes for systemic, organizational learning that would allow them to develop skills in recognizing, interpreting, and consolidating the mosaic of values and beliefs underlying the conflicting collective perspectives they faced in complex problem solving and policy making.

38.2.3.1 Interdisciplinary Research in Communities: Social Action and Power

This movement towards interdisciplinarity and community-oriented action-research manifested itself strongly during the last decade of the twentieth century (Maton et al. 2006). Research and social action initiatives found themselves closely tied into the shared objective of responding more adequately to the contextual and theoretical complexity of multidimensional social problems (Meritt et al. 1998). This twin overture, in relation to both other disciplines and the communities as partners in research, became characterized by a pragmatic specificity that transcended the conventional finality of think tanks. Over and above questions of influence and of governance, the pragmatic quest of emerging research initiatives in qualitative modes of enquiry aimed at achieving real and meaningful change to living conditions in local communities. Such research, in consultation with community and cultural representatives, subsequently fueled the critical analyses, evaluation, and improvement of existing programs and policies.

The resulting studies further signaled the recurrent problem of the systemic inertia of institutions and of government organizations, including funding bodies, to support multidimensional and integrated, interdisciplinary analysis conducted jointly by academic researchers and their community partners (Piasecka et al. 2010). Once again, the recurrent question of negotiation with formal representatives of political power surfaced, as with the conventional think tank, but this time, the conflict dealt directly with the anticipated social action rather than with the indirect fallout of negotiated brokerage around academic knowledge. Especially prevalent in the social sciences, this contestation led to the emergence of critical scholarship as a means of challenging institutionalized power and of providing a necessary alternative to the conventional status quo of “ivory tower” academic research (Kincheloe and McLaren 2005). To this end, studies further drew on an additional parallel between interdisciplinary collaboration in the academic sector and the intercultural competency required for effective collaboration with partners from different cultures (Greenwood and Levin 2005). As a result of this “intercultural wisdom,” researchers and community representatives developed heightened awareness to their own cultural influences as well as to the underlying dynamics of power and control in the interaction between the academic disciplines and community organizations at the local, regional, national, and international levels (McIntyre-Mills et al. 2008).

38.2.3.2 Redefining Knowledge from a Local Perspective: Communities of Practice

In opposition to think-tank networks that continue to perpetuate the myth of knowledge that is both universal and largely inaccessible, the move towards action-research has prioritized the presence and engagement of modes of inquiry in local contexts. The first approach continues to result in the ongoing alienation, under the guise of some arbitrary claim to universality, of oppressed and disadvantaged collectivities. This alienation contributes to the systemic isolation of these collectivities from opportunities for active democratic participation and predisposes them to being misrepresented or eradicated from mainstream representations of values and beliefs within the dominant culture and language. On the other hand, the action-research alternative introduces the creation of communities of practice and of learning by which members of a collectivity can participate in decisions concerning the conceptualization, the management, and the interpretation of research initiatives of concern to them (Stein 2002, p. 30). These collaborative modes of enquiry carry with them a social and an ethical dimension based on the intrinsic respect of individuals and especially, of the valorization of their capacity to take action (Reason 1994).

Closely related to the concept of community is the corollary element of participation in order to

reduce the distance between the ordinary people who have to live the change and the experts who create it. The community owns the ideas and actions for change. Change is achieved from shared learning rather than engineered by theoretical or expert knowledge (Stein 2002, p. 31).

Stein defines learning communities as the commitment on the part of researchers to interact with collectivities and to generate, at the local level, not only a body of knowledge and contextualized know-how but especially a capacity for social action so that members may contribute concretely to the future evolution of their environment. Learning communities thus specify into communities of practice (p. 27). The hypothesis underlying this approach to research supposes that the in-depth interpretation of a particular environment necessitates a joint effort on the part of the researchers and the community representatives involved so as to do justice to the multiple dimensions of lived community experience and to establish solid ground for possible future action.

In Stein's view, a community of practice can be defined in relation to its capacity to act and to achieve positive individual and collective development for its members in terms of improved social conditions and revitalized cultural expression (p. 29). Instead of requiring a population to passively listen and accept reports and studies prepared by "specialists," participatory action-research aims at facilitating ownership and enhanced representation at the policy-making level through the creation of new meaning that contextualized academic findings with the "wisdom of the crowd." This contemporary redefinition of knowledge and the manner in which it can be socially and culturally generated and managed has consequently resulted in

new approaches to applied, interdisciplinary research. As with conventional think tanks, approaches to action-research have evolved into systemic (organizational), intersectorial, and multidimensional methodologies because of the very nature of their object of study, which is essentially that of achieving social change at the local level through performance-based initiatives conducive to functional intercultural exchanges between academics, government decision makers, professionals, and specific communities.

38.3 Questioning the Hypothetico-Deductive Model

The above discussion illustrates the numerous parallels between the multiple dimensions or layers of sociocultural problems in need of management infrastructure and the complexity of cognitive processes inherent to resolving issues in community environments and intersectorial research units. Whether in the form of think tanks or communities of enquiry, of learning and of practice, all knowledge-based forums seeking to assemble citizens, researchers, specialists, and decision makers on specific issues basically generate a common dynamic: that of a “cognition unfolding across interacting individuals, that is, macrocognition in teams” (Fiore et al. 2010, p. 250). Research by these authors on emerging models by which to better understand and guide this macrocognitive practice gives rise to a five-step methodology for guiding this complex problem solving undertaking to pragmatic fruition. The preceding elements of this study have dealt with two of these steps: (1) tracking the multidimensionality of the problem to be resolved and (2) implementing a systemic approach for recognizing and interpreting the problem retained.

38.3.1 Macrocognition and Complex Decision Making

In this third section, the analysis highlights the semiotic nature of the macrocognitive process in terms of (3) processes for information and knowledge management, (4) interpretative practices for the creation and expression of interpreted meanings (semiosis), and (5) innovative action or performance-based text production by which to resolve the issues at hand through appropriate policy making and social action. In this regard, the literature makes frequent reference to Bronfenbrenner’s systemic model for better contextualizing and undertaking collective problem solving. Evocative of cultural semiotics systemic approach to the study and analysis of cultures, Bronfenbrenner (1979, 1989) further reinforces the tenants of the Tartu School by recognizing that recourse to collaborative research and reflection necessarily entails intra-systemic and extra-systemic interrogations on the part of the participants involved in this emerging macrocognition.

Subsequently, the creation of such problem-solving environments calls first for the multidimensional implementation of transversal decisional processes within the

internal culture of the host organization (Schraagen et al. 2008). The model of macrocognition developed to map out this interaction between the members of a team and the systemic environments to which they seek to respond then establishes a three-part semiotic or “meaning-based” sequence by which to account for progression in the macrocognitive work of the research unit. At the outset (steps 1 and 2), data are structured and contextualized for further interpretation. Such data are perceived as potentially significant within and in respect to a specific spatiotemporal site or context. In steps 3–5, the team then seeks to reformulate or to transform this information into knowledge so that it can be integrated into existing information regarding the problem at hand and in relation to previous experience. In turn, this new knowledge and information base allows the team to move towards performance and “action via synthesis with the problem-solving context” (256). The macrocognition sequence thereby moves from information to knowledge to action. This sequence fundamentally relies on the capacity of participants to attribute meaning and signification to the data accumulated. The articulation of this meaning in the signifying discourses of the academic disciplines involved then leads to the formulation of texts which express and communicate hypotheses for the performance-based resolution of the problem at hand through practical and effective know-how (praxis).

38.3.2 Creativity, Knowledge, and Technology

As pointed out in the outset of the study, the conventional institutional research unit referred to as a think tank reinforced the myth of universal academic knowledge that an intellectual, social, and political elite could negotiate and transfer to multiple sociocultural contexts. This global perspective, along with its inherent ideological connotations, also carried a competitive edge by seeking to confer strategic advantage to the political, economical, and military sectors of the host country. As an additional mandate, these research units endeavored to inform, influence, and orient subsequent applications of new knowledge and technology through government and corporate policies. However, such policies were not necessarily congruent with the specificity of the populations affected by the decisions made. Also, the neopositivist perspective characteristic of conventional think-tanks valued the experimental sciences and quantitative measurement in its hypothesis-building and experimentation methodologies.

However, as convincingly established by the advances in qualitative research since the last quarter of the twentieth century, the multidimensional complexity of living conditions of communities that make up the social fabric of present-day democratic regimes call for new approaches for producing and managing knowledge, based on the local and historical perspectives of ordinary citizens and of the collectivities in which they live. Be they think tanks, communities of enquiry, communities of practice and learning, these research units all constitute information-oriented and information-sharing organizations in one form or another. They all deal with

the same fundamental product: knowledge. As a common mandate, they fulfill the function of filtering existing information and knowledge accumulated within the academic disciplines to meet governance-related objectives in the wide social body.

In the context of the present-day information or communication age, knowledge has become a commodity, a product, a source of power, and a repertoire of solutions in search of problems to solve. As the social arena of think tanks has widened to give voice to communities and to ordinary citizens, new challenges enter into play within these interdisciplinary and collaborative approaches in terms of education and learning. What now matters, first and foremost, is what individuals or groups chose to do with the knowledge and information gained or made available, thereby suggesting that the finality of social action is entrepreneurship in its various forms, be they economic or social. In reference to Drucker (1985), Scardamalia and Bereiter (2003) affirm that all organizations related to the knowledge industry face the same challenge: innovation. They further assert that the information age calls on the capacity of individuals and groups to transform abstract ideas and knowledge into something usable in terms of process, production or theory: “[d]eveloping this capacity for sustained creative work with ideas is a new challenge for education” (4).

With the challenge of education in communities of practice and learning consequently comes the related imperative of individual and collective creativity. Knowledge management implies its continued creation, adaptation, and transformation through continued implementation and experimentation. As a subject of study, creativity has gained heightened importance in the triangular dynamics between the academic disciplines, government representatives, and cultural communities. This recognition of the role of creativity in communities of practice and learning, as well as in think tanks, is further fueled by recent research on creative process. Studies, such as those by Simonton (1999) and Perkins (2000), have demonstrated that creativity, as in the case of knowledge, does not necessarily constitute the property of a social or economic elite. Rather, creativity develops through education and collaborative activity. Scardamalia and Bereiter underscore the contribution of new communicative technologies in facilitating access to learners of all ages and social status to training programs and to learning resources that allow them to go beyond existing political, academic, and social boundaries of their respective environments (7). More than a century after making its initial appearance in North America, the think tank, although always present in multiple, hybrid forms, finds itself thus deconstructed, reassembled from the “bottom up” and rendered more democratic through communities of learning and practice. However, at the heart of both approaches lie the dynamics of negotiation and of transforming intersectorial and interdisciplinary information and knowledge into innovative action. This commitment to applying the advances of knowledge for producing positive change in disadvantaged and marginalized communities is reinforced through the empowerment processes by which participatory action-research includes ordinary citizens and cultural representatives into applied research partnerships with the academic community.

This same valorization and redefining of creativity is also manifest in the technological sector where emphasis is increasingly placed on the conceptualization of

new technologies that can support and foster creativity development. The objective consists of creating new software and interactive programs that can “enable people to be more creative more often” (Shneiderman 2007, p. 20). It must also be noted that this innovative action targets primarily collective collaboration and social creativity which, in turn, benefit from new theoretical footings as ongoing research sheds new light on the cultural and contextual nature of creative process. Whereas traditional descriptions of creativity essentially described this phenomenon as the property of exceptionally gifted individuals, Shneiderman draws attention to three new schools of thought that consider creativity as an activity that can be learned and that is accessible to all (25).

He first lists the “structuralist” school that stresses the importance of method in creative process. The second school, that of the “inspirationalists,” assumes the opposite stance by advocating a break from all preexisting methods so as to discover, through ludic exploration, unexpected relationships and consequently, new sources of inspiration. Third, and of particular interest to communities of practice and learning are the “situationalists” (Csikszentmihalyi 1997, 1999) that emphasize the role and importance of social, cultural, and contextual factors in the development of the creative potential and activity of individuals. Overall, these redefinitions of academic knowledge, of decisional power, and of social action orient communities of learning and practice towards problem solving and participatory action-research within a framework of collaboration and social creativity. In turn, the push towards creativity in research calls for both inclusive pedagogical practice and democratic access to human and material resources imperative for innovative social action. In essence, the finality of creativity and innovation through culturally and linguistically significant products and services converges with cultural semiotics’ views on the evolution of cultures through text development.

38.3.3 Interdisciplinarity and Multiculturalism: Innovation, Meaning, and System

The interdisciplinary evolution of think tanks and communities of practice and learning towards action-research and innovation with respect to related approaches to interculturality also entails a look at the linkages between creativity and multicultural experience (Leung et al. 2008). Here again, the literature favors the definition of creative action as advanced by the “situationalists,” namely the individual and collective capacity to introduce change that will be recognized and accepted by a certain set of decision makers, of “gatekeepers,” so to speak, within a specific group or collectivity. The key issue of the cultural dimension to creative performance can be found in both academic- and community-based perspectives of performance and innovation (Steinberg and Gorceva 1996). However, discussion of the relationship between creativity and culture becomes quickly ambiguous owing to the complex and abstract nature of the cultural phenomenon in academic discourse.

Current views on culture however emphasize its largely nonverbal, action-oriented nature and portray it as a body of learned behaviors in view of coordinating the social behavior of groups and individuals (Chiu and Hong, 2005). The relationship between creativity and innovative collective action, or intercultural exchange, thereby constitutes an important and emerging topic in the educational sector, as well as in organizational and workplace cultures. This dynamic calls into play more encompassing adaptive and interpretive (semiotic) processes by which researchers can develop greater sensitivity to largely nonverbal cultural meanings and thereby better adapt to unfamiliar social environments. This interpretation and decoding of collective meaning becomes fundamental to what some studies label as “cultural intelligence” (Earley and Mosakowski 2004, Earley and Ang 2003). Through the diversity of perspectives brought to bear on a particular subject, the multicultural experience within communities of practice and various forms of think tanks converge towards a shared finality: tapping into the collective potential of the research unit assembled for the purpose of innovating through the generation and application of new or renewed forms of knowledge, fundamental or applied.

38.3.3.1 A Systemic and Multidimensional Model for Participatory and Community-Based Action-Research

The questioning and subsequent critique of top-down, elitist modes of operation and enquiry specific to conventional think tanks fundamentally boil down to the semiotic nature of cultural phenomenon and to the consequences, positive or negative, of appropriate or inappropriate policy decisions concerning underrepresented sectors of society. Subsequent strategies by communities of practice and learning to integrate cultural perspectives in defining and applying knowledge to social contexts deploy similar processes for cultural semiosis, this time from a bottom-up interpretive stance, in order to ground research initiatives on the signifying modes of local cultures as a more fertile footing for innovative action, informed policy-making and effective social change. This bottom-up orientation crosscuts with findings in anthropology (Green 1986) that, according to Schensul and Trickett (2009), demonstrate how

attempts to solve local or indigenous problems introduced by concerned ‘outsiders’ were likely to be unsuccessful and unsustainable without the authentic desire, commitment and practical involvement of local communities (233).

Studies across the disciplines (Kingry-Westergaard and Kelly 1990, Sarason 1972) increasingly recognize that efforts to innovate locally, when conducted by external agents, become counterproductive and generally lead to feelings of indifference and of powerlessness within the host community.

As Schensul and Trickett further indicate, such failures often translate into expensive scientific experiences with little continuity or durable outcomes to show in the end, as well as limited transfer of the knowledge and skills needed to permanently resolve the problems identified (234). The capacity to work *with* members

of a community instead of *for* them calls on theoretical and conceptual models that allow researchers to establish collaborative relationships in relation to the specificity of the environment. These authors reaffirm the operational value of the previously referred to Bronfenbrenner socioeconomic model (1979, 1989) because it approaches the context and culture of a community as a dynamic system, similar to that of an ecological system (234).

Evocative of the systemic approach inherent to cultural semiotics, Bronfenbrenner's model allows for multidimensional levels of analysis (micro, exo, and macro) by which researchers recognize and decode the interplay of intra-systemic and extra-systemic influences on an environment, including that of internal and external power-related hierarchies. Also similar to the cultural intelligence model put forth by Earley and his colleagues, Bronfenbrenner's systemic approach provides the methods by which participants represent and communicate the dynamics of the environment through cognitive mapping techniques. Used mainly in relation to medical and social issues, Schensul and Trickett recognize that such systemic and multidimensional modes of intervention do not necessarily focus on questions of disparity and social emancipation (235).

However, in reference to the additional integration of empowerment theory (Maton et al. 2006) to such approaches and of appropriate infrastructures to community-based and participatory action-research, the authors envisage a promising avenue for authentic and durable collective action and intervention emerges by which to establish research projects whose theoretical footings "congruent with community culture, needs and ideologies, and are applicable and effective at different intervention levels" (237). Such multidimensional and semiotic-based, interpretive approaches must also aim at assuring a systemic and holistic continuity so as to assure that the outcomes and the processes for intervention at each level complete and reinforce one another as they all converge towards the same holistic finality and vision. The operational value of this finality, be in the form of product, process, or service, becomes significant, meaningful in relation to shared frames of reference of the community as well as the academic and social partners involved. In this sense, the meaning or "sense-making" finality to action-research crosscuts the fundamental premises of text semiotics.

38.3.3.2 Problem Structuring Methods

The interdisciplinary convergence of systemic approaches to solving intersectorial and multidimensional issues within multiple cultural contexts further specifies into new methodologies for dealing with the problem solving process per se. Of particular significance is the fact that studies in administrative sciences and organizational theory also reaffirm the operational value of systemic approaches for dealing with the complexity of sociocultural issues. In England, research on *problem structuring methods* (PSMs) has developed a mode of operation similar to the initial think-tank format: a limited number of decision makers, generally between 5 and 15, examine a problem in view of negotiating a plan of action (Rosinhead and Mingers 2001).

This methodology carries various labels such as “interaction method” (Doyle and Straus 1993) and “Participatory Decision Making” (Kaner et al. 1996).

The problem structuring typology common to these approaches uses three variables for classifying the difficulty to be resolved: the problem, the solution, and the consensus. A simple problem presents a situation where there is consensus as to the manner in which the problem is formulated as well as to the proposed solution. When faced with a problem qualified as complex, the research unit is in agreement with how the difficulty is formulated but disagrees as to the solutions to consider. Then, in relation to extremely complex social and organizational issues, a problem often qualified as “wicked,” “messy” or “swampy,” decision makers cannot come to agreement as to the difficulty at hand or the solutions to envisage or to prioritize. This type of problem generates multiple interpretations as the participants are further influenced by their respective values, beliefs, and modes of discourse. They often find themselves faced with a lack of time, resources, and scientific data by which to conduct an in-depth analysis of the question. Furthermore, a “wicked problem” tends to evolve and to change over time (Shaw et al. 2004, p. 454).

In their article “Problem structuring methods for large group interventions,” Bunker and Alban (1997) conducted an in-depth analysis of the possibility of applying this methodology to larger groups so as to meet the current and growing need in organizational cultures for dealing with this level of systemic complexity. To this end, they signal the existence of 20 or so approaches already committed to supplying workshops and training sessions by which to transfer systemic approaches to collective problem solving to larger groups. This phenomenon, labeled sometimes as “large group intervention methods” includes initiatives such as “open space technology,” “team syntegrity,” “future search,” and “participative design” (453). Overall, these approaches favor a structured analytical and “sense-making” process that tap into the potential of multidimensional community consultation in view of solving collective problems though the design of practical plans for social change.

38.3.3.3 Resolving Multidimensional Conflicts

As a result of these shifting modes of perceiving and evaluating cultural contexts according to multiple, and often contradictory axiological systems, decision makers and stakeholder groups are confirming a growing awareness within the academic community as to the important need for elaborating new modes of engagement and of inclusive representation of specific populations in relation to the political and governmental instances that govern them. Since recently, Dewey’s model of reflexive thought (1920) has served as a core reference in the management of community change. This model proposes a linear process: identification, possible solutions, solution retained, and implementation (Barge 2001, p. 91). However, to truly bring about the changes needed to effectively respond to the needs of societies characterized by various rationalities and conflicting moral orders, specialists in conflict theory doubt of the continued operational value of Dewey’s model.

As with think tanks and other forms of collaborative consultation, Dewey's methodological framework attempted to establish a bridge between a situation qualified as problematic and a so-called ideal situation. In an important article entitled "Integrating theory, research, and practice in select conflict contexts: Creating healthy communities through affirmative conflict communication," Barge claims that the reason for questioning the continued application of this problem-solving format stems from the fact that it no longer corresponds to the complex living conditions of contemporary society. The author consequently affirms that Dewey's hypothetico-deductive model perpetuates the outdated approach of addressing one problem at a time instead of creating inherent "conditions for healthy living and sustainable change" (91). The fact of wanting only to eliminate problems entails the risk of provoking their displacement to other regions in the system.

In addition to further reinforcing the alternative of systemic approaches to collective change and evolution, the questioning of the Dewey model for conflict resolution points to another important flaw: its orientation towards depreciative discourse. This negative attitude and perception on the part of researchers and the academic community towards specific populations thus tends to increase feelings of powerlessness in already disadvantaged and weakened communities, thereby consequently increasing their dependence on external agencies as well as their mistrust of government. This danger becomes particularly manifest in the case of "devastated communities" (Kretzmann and McKnight 1996) who have experienced the disintegration of their economic infrastructures and traditional lifestyles.

When gaps in perception focus on opposing patterns of values and beliefs, the multidimensional conflicts that arise polarize modes of action around cultural norms, values, and beliefs that relate to questions of individual and collective identity. Barge points out that this kind of conflictual situation is both moral and cultural. In other words, it implies that a change in the stance adopted within the conflict further entails a radical modification in the makeup of one's own identity. These conflicts become difficult to resolve because they necessitate communication strategies that can go beyond the incompatible discourses of the antagonists (Pearce and Littlejohn 1997). Researchers in conflict resolution call for the elaboration of new communicative practices capable of facilitating a transcendental form of discourse and dialogue between the differing rationalities involved in a conflictual situation. For example, such emerging practices aim at replacing depreciative discourse by approaches that favor the exploration of the strengths and qualities specific to a community, as well as the valorization of its productive practices and resources (Cooperrider and Whitney 1999).

To this effect, forms of appreciative enquiry offer strategies for intervention that allow communities to build heightened awareness of their accomplishments and achievements so as to transfer and apply these qualities and functional aspects of collective lived experience to new contexts (Barrett and Cooperrider 1990). Appreciative enquiry, essentially a socioconstructivist approach to community development, works off the premise that language serves as a means by which to create reality rather than simply representing it. Through participatory action-research, these modes of enquiry seek to establish a linguistic universe contrary to negatively

orientated narratives, thus creating a framework by which community members can bring to bear the best of themselves in envisioning a common future (Barge 92). These new research methodologies reaffirm a feeling of belonging and encourage the involvement of citizens in the development of their communities so as to facilitate internal change in view of the common good of the collectivity.

Instead of fostering applied research that is hypothetic deductive in nature, methodological discourse undergoes significant modification in viewing application of the theory applied as a “transformative practice.” Such practice consists in developing the skill and competency level of individuals so that they can improve the situation in which they find themselves. This approach does not seek to affirm a particular rational order or a set way of defining “truth.” Instead, the ad hoc think tanks or communities of practice and learning created through appreciative enquiry seek to create a context where theory and practice merge and are enriched through the contextualized exchange on the community’s lived experience. The objective of this intersectorial encounter, task force, or community research initiative no longer consists of verifying hypotheses, of evaluating theoretical models for community development or conflict resolution, but rather to engage in the “grammar of the other,” in the “practical wisdom” or *phronesis* of the collectivity in an effort to achieve positive change. In the final analysis, according to Barge, the democratic anchoring of the intersectorial dialogue made possible through these “structured community conversations” entails a semiotic process on the part of the participants who seek to innovate by looking first at their own personal and collective cultures and by discovering within those systems, deep levels of meaning intrinsic to their collective modalities of being and of acting (99).

38.4 Interdisciplinary Applied Cultural Semiotics

Ultimately, despite the diversity of approaches and methodologies discussed, various forms of think tanks, communities of enquiry and of participatory action-action focus on collaborative and consultative processes for resolving problems through systemic and intersectorial formats whose finality remains concrete, innovative action in relationship to different levels of social and cultural power. In both “top-down” and “bottom-up” approaches to knowledge management and application, interdisciplinarity, interculturality, and creativity remain at the forefront of finalities and mandates pursued. The quality and effectiveness of these research units, be they formal, informal or ad hoc, depend fundamentally on the quality of the information retained to deal with the issue at hand in terms of analysis and subsequent appropriate action and service. In this information and communication age, management of information quality can be considered as the primary component or prelude to any form of collaborative and institutional applied research. Determining the criteria by which to evaluate this quality engages multiple interpretations by professional, cultural, and social perspectives of the research unit and communities involved. This interpretive accumulation, retention, and processing of data with respect to

host stakeholder groups requires individual and collective competence in decoding unfamiliar cultural environments, be they organizational, ethnic, local, or transborder collectives.

38.4.1 Interpretation, Information, and Meaning

Referring back to Geertz and the Tartu School, such interpretation of cultures, regardless of their nature, constitutes a semiotic enterprise. This “sense-making” process can be broadly defined as the production, recognition, and communication of specific forms of signification or texts by and between the subjects involved according to their respective collective modalities of being and doing. The analytical and communicative methods developed across the disciplines to better understand and shoulder this interpretive stance towards such “sense-making” practices assume their true potential in applied research settings, especially those confronted with “wicked” intercultural issues. In conclusion, the continued interdisciplinary value of cultural semiotics in performance-based, innovative social action stands to be more fully explored in regard to three areas: information management, systems analysis, and interdisciplinary text production.

In their article, *Empirical Refinement of a Semiotic Information Quality Framework* (2005), Price and Shanks use Morris’ (1938) semiotic model to establish a theoretical and methodological framework for evaluating the conformity of data retained to preestablished criteria of quality (pp. 3–4). From Morris, the authors retain his triadic model of the sign: representation (meaning sought), referent (object to which the representation refers), and interpretation (meaning received or effect of the representation on the actions of the interpreting subject). They also keep the three descriptive categories derived from the components of his sign model: syntactic (relationships of the sign to other signs), semantic (relationships between the representation and the referent), and pragmatic (relationships between representation and interpretation). In their application of Morris’ sign theory to information management, Price and Shanks view the syntactic category as the means by which to evaluate congruence between the data retained and other data in the system under study in terms of content and rules pertaining to usage. By means of the semantic category, the authors verify in what ways the information presented corresponds to external phenomena referred to by the data. And third, the pragmatic dimension allows the evaluation of informational value in relation to the quality of the data retained based on the systemic specificities of the organizations or stakeholder groups involved in the subsequent or targeted application of this information. In other words, pragmatics deals with congruence between the data retained and the systemic norms, values, and beliefs of the organizational, professional, and cultural units involved.

The predominance given to these syntactic, semantic, and pragmatic categories subsequently influences the kind of discourse used by research units in legitimizing their work to the members of their network, beneficiaries, and stakeholder groups.

Seen in this light, conventional think tanks and interdisciplinary academic units of research tend to prioritize the syntactic category of information: the relationship between scholarly works in and between the “silos” of institutionalized knowledge. A professional orientation, such as that undertaken by Abele, accentuates the semantic dimension of the information retained in view of links to the phenomenal world, thus favoring the previously referred to interdisciplinary confrontation between the academic silos. And participatory or community-based action-research initiatives tend to undertake their interpretations of the quality of their data banks based on pragmatic relationships between those bodies of information and their multidimensional implications for the subjects and collectivities concerned, especially in terms of social justice and change. The evolution of think tanks and hybrid forms of collaborative, institutional, and community research units thus refer back to the intentionality that originally led to their development: intersectorial knowledge management and its pragmatic redefinition from the perspective of the users in view of social policy and multileveled political decision-making and text production.

38.4.2 Lewin and Lotman Revisited: Systemic Approaches to Collective Creativity

In this summary overview of approaches to collaborative and interdisciplinary applied research, the concept of system has been a recurrent and fundamental theme. In espousing the central tenant of culture as systems for processing information from the outside world (Chernov 1998, p. 13), Lotman and the founding members of cultural semiotics put forward a hypothesis with far-reaching implications and, in effect, opened the door to the effective systemic analysis of cultural phenomenon. Their theses for the semiotic analysis of cultures contributed to the capacity of academics and communities to pinpoint the evolution of cultural systems across time by accounting for synchronic and diachronic perspectives from both an inter-systemic and an extra-systemic perspective. The cultural semiotics of the Tartu School thus merge closely with the ideas and methodologies put forward in the 1940s by the founder of action-research, Kurt Lewin, at the Tavistock Institute for Human Relations.

Especially recognized for his understanding of change processes in social situations, Lewin (1946) approached organizational cultures as systems animated by attitudes and expectations. In a view very similar to cultural semiotics, Lewin considered these systems to be in a perpetual quest for homeostasis or equilibrium. Just as living biological systems seek to maintain equilibrium, organizations also have a tendency to resist change in order to maintain stability. In the context of community-based action-research, Lewin’s principal merit stems from his search for means by which to facilitate systemic change by banking on the simultaneous participation of all facets of the system in the change process. It must be further noted that his works deeply influenced theory on organizational change, especially in regard to the complex interplay of his four major themes: the capacity to map out

human behavior in a field situation, group dynamics, action-research, and a model for planned change in three steps (past, present, future).

The concept of system and the recognition of the systemic nature of all organizations and cultures thereby translate into a core strategy for social action through applied research initiatives. Systemic change or evolution affects all subsystems and members of the culture concerned. Consequently, approaches stemming from Kurt Lewin's model for action-research all strive to assemble these subsystems and members, or their representatives, into the same space for a definite period of time in order to engage in structured change-related dialogue. The new insights and understandings emerging from this macro-systemic interaction serve as a prelude for the redefining of the organizational reality of that particular environment and for the discovery of "common ground" or shared referents by which to undertake collective change.

A critical survey (Dick 2004) of publications related to the growing number of collaborative problem-solving methodologies that have emerged out of Lewin's systemic model, frequently categorized under the labels "large group interventions" or "whole system change," attributes their operational value to their capacity to act as significant counterweights to the omnipresent danger of organizational and community reductionism. Dick further affirms the potential of these modes of enquiry for cultures characterized by oral tradition. In addition, his critical appreciation of action-research in the health sciences insists particularly on the challenge faced by academics to render themselves as being "culturally significant" to the communities they seek to serve (431).

In the same vein, Eoyang (2004) associates the multiplication of systemic approaches to cultural and organizational change that occurred in the 1980s with the chaos and complexity theory that has also influenced parallel applications in the study of human systems in science and mathematics (55). Using approaches to "whole system change" such as "future search" (Weisbord and Janoff 1995, 2007), he demonstrates the capacity of these approaches to reveal the deep structure of the systemic dynamics of an organization and their compatibility with mathematical methods of analysis. Referring to another similar approach, "open space technology" (Owen 2004), Eoyang describes how such modes of enquiry facilitate manifestation of subtle and invisible structures that motivate systems of human interaction and that mathematical analysis, such as the analysis of nonlinear temporal sequences, can capture and process (58).

Bell and Tunnicliff (1996) view the abovementioned approaches as symptomatic of a fundamental transformation from a world where specialists solve problems for people to a situation where all of the stakeholders, including "experts" and academics, collaborate to improve the overall system (13). According to Fuller et al. (2000), the merit of these approaches to collaborative intervention stems from the fact that the problem-solving processes undertaken are deployed from a collective perspective and are more inherently inclusive and democratic. These problem-solving approaches facilitate the setting of short-term ad hoc working groups orientated toward the systemic, holistic learning, and expression of the modalities governing the workings of the culture as a whole. Studies suggest, according to these authors, that these models generate a higher level of commitment and engagement on the part of

the members than those characterized by hierarchical perspectives and hypothetico-deductive approaches to organizational change. In light of the strong pressures faced by companies and organizational cultures to adapt to complex and rapidly evolving environments, Fuller and her colleagues argue that traditional approaches to change “are simply too slow and unable to generate the creativity, innovation, and commitment needed of organizational members” (29).

The innovative practices introduced under the paradigm of “whole systems change” or “large group interventions” operate from solid, interdisciplinary academic foundations, beginning with social psychology (Katz and Kahn 1978), systems theory (von Bertalanffy 1976), needs and motivation theory (Maslow 1943), group dynamics (Bion 1961), and social constructionism (Berger and Luckman 1966). Although frequently applied in the economic, health, and government sectors, few studies have been conducted to date on the concrete outcomes of their application in specific settings. However, Shaft and Greenwood (2003) argue that the evaluation of these forms of participatory action-research present important methodological challenges as the modes of collaborative inquiry and research are inherently linked to participatory processes:

the effects of participation are often hard to assess because participatory approaches are inherently process-oriented. Goals are not set *a priori*, but are developed and revised over the course of the planning process, and thus, “outcome criteria” are often moving targets. (32)

Shaft and Greenwood conclude that the most valuable contribution of methods for systemic intervention, such as “future search,” documented thus far is that they

[...] enabled community members to define for themselves what they saw as the most significant problems affecting their communities and then to define what they understood as both appropriate and sustain able solutions (34).

And participants in such initiatives generally considered that the implementation of “whole systems change” intervention represented “not so much as a defining moment but rather as part of a *larger and more organic effort* directed towards community change” (34).

In essence, the paradigm of “whole systems change” gives concrete expression to the pragmatic turn that occurred in the second half of the twentieth century as to how knowledge could be defined and applied in terms of interdisciplinary practical and effective know-how. In terms of applied research related to intercultural issues, systemic approaches to collective evolution have the additional merit of putting in place participatory decisional and text production processes that can reflect in-depth perspectives particular to a specific community and that can also integrate local knowledge and the active collaboration of individuals in the resolution of culture-related issues at the all-important organizational level. This linkage between intersectorial decision making and community representation thereby gives voice to those individuals and communities who would normally be excluded from more conventional, elitist approaches to policy planning and subsequent legislation. In this sense, systemic forms of action-research offer processes and practices by which communities might not only share knowledge and wisdom but also collaborate with others in creating it to build a shared future through concrete initiatives.

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Roger Parent completed his Ph.D. in semiotics and French literature in 1992 at Laval University. Since that same year, he has taught mainly literature, theatre studies, and applied cultural semiotics at Campus Saint-Jean, University of Alberta. His research and publications deal with issues pertaining to theatre of creation, cultural development, and intercultural education. Based on his study of performance and culture, he has developed an interdisciplinary pedagogy and applied research methodology for resolving cultural conflict. His research and training methodology, along with accompanying learning materials, has been piloted nationally and internationally in collaboration with university and government partners in Canada, Europe, and Australia.

Chapter 39

Reading the Subject of History: From Semiology to Poststructuralism

Peter Pericles Trifonas

39.1 The Problematic Reason of History

That all history can only be in the last analysis, the history of meaning, that is of Reason in general...

Jacques Derrida

If what Jacques Derrida states above is true, then history has nothing but a problematic reason.

Since its inception by Hegel (under the rubric of *Geistesgeschichte*), intellectual historiography has traditionally demarcated a particularized “subgenre” of general historiography faithful to the “master” discipline in the degree of its adherence to the same epistemologico-theoretical precepts of representing the reality of human actions and events, but differing in the transdisciplinary breadth of sources that have reinscribed the nature of its praxis (e.g., philosophy, anthropology, sociology, linguistics, psychology). The problem of the autonomy of intellectual or cultural history in the field of historically oriented studies of culture is compounded by the fact that it “lacks a proper name” (p. 27) as Michel de Certeau (1988) has asserted. It is called intellectual history or the history of ideas in the USA. *L’histoire des mentalités* is the French term for it, and in the Soviet Union, it is referred to as the “history of thought.” The significance of the lack of “properness”—or appropriative force—of the act of naming in this instance is that it fails to mark for the difference of its identity within a heterogeneous disciplinary space. Yet the problem of the autonomy of intellectual historiography does not strictly preclude its differentiation from the means for maintaining relevant inter- or intradisciplinary distinction. It posits a priori a unified expression of identity that is in this instance absent, without a teleological justification, without a definitive reason.

The need for the legitimization of the diversity within the subgenre reveals what Kellner (1989) has termed to be a latent “anxiety of influence” concerning the

P. P. Trifonas (✉)

Ontario Institute for Studies in Education/University of Toronto, Toronto, Canada
e-mail: peter.trifonas@utoronto.ca

autonomy of disciplinary identity manifest by the general perception of a splintered *corps*. The totality of effects accompanying this sense of dissolution among its practitioners is subsumed by the impetus for epistemologico-theoretical renewal within the field. This need to reexamine the conceptual ground of intellectual history has demanded as its equivalent in application, the reflexive modification of praxis. What would a rethinking of history entail after the “linguistic turn” of contemporary theorizing around the writing of history? How would the discipline of intellectual history be changed in its theory and practice?

The ability to transgress epistemologico-theoretical boundaries and claim as right the power of invention in the making of its own “laws” would grant history the privilege of methodological self-governance. The crux of the dilemma deepens when the problem of the autonomy of disciplinary identity is posed not only as an effect of inclinations toward methodological disunity but also as an effect of specifically nationalistic conceptualizations of intellectual or cultural history yielding a plurivocity of definitions, conceptual tools, and lexical hegemonies (Chartier 1988). The desire for an inclusive and therefore definitive or exhaustive catalogue of classifications does not grant privilege to claims of autonomy of disciplinary identity, but pushes the limitations of such boundaries beyond the margins of epistemologico-theoretical exigencies and undoes the means for standardization. It thereby leaves open the possibility for a reassessment of the methodology of intellectual history (see Gearheart 1992). It is in this space of undecidability that we will begin to explore an intellectual history after the linguistic turn or, as I would like to call it, *the semiotic turn*.

39.2 Text—Context—Language: The Meaning of the Meaning of History

The central problem of intellectual historiography is the problem of ideology, and it is inextricably related to the question of meaning and its connections to social and cultural formations of consciousness. That is, the meaning of meaning. Or, the interpretative dimensions constituting the discursive field of its articulation, dissemination, and mediation through the translation of ideas, “turns of mind,” progression of thought, values and ideals of individuals, groups or societies embodied in various “textualized” forms across cultural milieus of different historical epochs. There is a distinctive bifurcation of purpose informing the operation of intellectual historiography that entails its interpretative focus to be concurrently upon (1) the textualized “products” of culture and (2) upon the contexts within which their meanings, when inculcated socially, are created, distributed, and “consumed.”

The axiomatics of interpretation are consequently generated from the culpability of “reading” the synchronic and diachronic dimensions of text–context relations. Undecidability is immanent to the semiotic space—both the representational and hermeneutical nexus—of such an interpretative interstice. To attempt the possibility of such an interpretative act that aims toward an understanding of a cultural product

and its semiosphere is to advance toward a position of hermeneutic reconciliation. One that seeks to comprehend the “formulative” syntheses of reality and thought, being and consciousness, and history and language the influences upon the conception and creation of textualized remnants from the interiorized dynamics of external forces situated within the contexts of incidents and events past. The empathetic scope of this mode of backward projection of the psyche is justified by the belief in the power of the historian to objectively recreate the “mental climate” of the past, while in the present moment. The material products of culture are thereby explicated through the reconstruction of historical meanings from discursive forms of representation.

A rethinking of the text–context conundrum through the question of representation provides the means for facilitating an interpretative mode for intellectual historiography wherein is expunged the reductionist tendency to simply historicize or contextualize the “intellect” and the “material products” that render its cultural function. It allows for an accounting of the strategies utilized to explicate the production, distribution, and consumption of meaning(s) of texts at various cultural “levels” and within diverse cultural contexts. In essence, the demand—less for the reconstitution of original or intended meanings of texts from the contexts of events past than for an “exegesis” of their historical significance—incur the mitigation of “unilateral” or “parasitic” ties with related disciplines and justifies the interpolation of a more systemic use of analytic modes that accommodate the implications of what has been called the “linguistic turn” or, as I call it, the semiotic turn, of intellectual or cultural historiography.

39.3 Ideology and History: Interpellating the Subject

Ideology is not an aberration or a contingent excrescence of History: it is a structure essential to the historical life of societies.

Louis Althusser

Ideology must refer to the affectivity of unique processes of discursivization governing not only the means and modes of textualization but also the distribution, “consumption,” and legitimization of meanings as specifically determinate amalgamations of cultural and historical forces that function to construct subjectivity. The term “subjectivity” subsumes the interrelations between semiotic systems of representation and cultural praxis that function to institutionalize ideological-based processes of becoming and mark the limits of the “seeming” mental coherence of the consciousness of being and of the conception of being. As a neologism supplied by Louis Althusser, it delineates the realm of being as a *subject* capable of courses of action and also being as a *subject to* external strictures upon the free will to action. Defining the “relative autonomy” of ideology is the implicit desire for maintaining the conditions that make possible the reproducibility of familiarized modes of discourse and a “common” content of thought within and without the hierarchy of structures of institution that comprise the *habitus* of the subject. For Althusser,

this is what determines the dominant conceptual frameworks human beings use as a subject to interpret external reality. Conscious and unconscious beliefs are immanent for the ethical valorization of the social and political dimensions of action so as to render it “consequential,” “directed,” and, therefore, “productive”:

Groups engage in political activities for political purposes, to be sure, but these activities are meaningful to them only by reference to some other, extrapolitical aim, purpose or value. This is what permits them to imagine that their political activities are qualitatively different from those of their opponents or represent a higher value than those of their enemies.... Historical events differ from natural events in that they are meaningful for their agents and variously meaningful to the different groups that carry them out. (White 1987, p. 210)

It is not surprising that the end of the nineteenth century could only have resulted in the extirpation of an ideologically grounded interpretative framework from the epistemological and theoretical foundations of positivism that governed research methodology in historiography. The entrenchment of a pure “scientificity” of intentions supported a correspondence theory of “truth” ultimately verifiable by a propositional logic of language and representation. Three perspectives that construe the ontotheological basis of “reality” to be derivative of correspondences between conceptual relations motivating discursive expression from a set of corollary empirical data accessed by the discerning subject from the external world have informed intellectual historiography since that time: Language conceived as (1) an indexical manifestation of causal co-relations governed by the totalizing materiality of external world structures (e.g., Marxist delineations of historical method); (2) an iconic, or mimetic, representation of the external reality reflected analogously in the system of grammar, syntax, as well as the lexicon used (e.g., the methodologies of Spitzer, Auerbach, Cassirer, etc.); and (3) a motivated symbol of external reality which presupposes the presence of an overarching *Zeitgeist* (“spirit of the time”) manifest within all aspects of the *logos* of a culture revealing, in synecdochic fashion, the essence of the whole (e.g., the Hegelian-influenced historians; see White 1987). The privileging of autotelicity in the referential function of language inheres prominently the nomological-deductive belief that the ontological essence of the past is to be found in the wealth of detail documented, its undeniable facticity. Its truthfulness is seen as residing in the correspondence between the stories “written” and the stories “lived” (see LaCapra 1980). Such a facticity is demonstrable only in the closely argued causal-based logics of a dissertative style of address, aimed at revealing the “true” story, a simulacrum of the actual events, and the “real” story, the narrativized account of it. The use of a strictly narrative mode of historiographic poetics as a style of presentation is thus charged with endowing the representation of events and processes an illusory coherence or inherent “novelistic” dramatization more characteristic of an oneiric reality than an “actual” one (Chartier 1988). Ultimately, the distinction between rhetorical modes of discourse valorizes the presupposition that, in accordance with the long-standing “rules of evidence,” the validity of sources can indeed be “traced” beyond disputation to referents “found” in primary sources (textual artifacts (official documents, records of events, diaries, etc.) and “relics”) rather than constituted by the presentism of interpretative attempts at interpretation made by nonobjectively inclined historiographers. The materiality of these primary

sources is conceived to confirm and anchor, in the culturally specific yet common codic features of their textualized forms, the authenticity of the contexts motivating their production, thereby attesting to the “truth” of the historical reality referenced for the purpose of explaining the past or reconstructing it (White 1987). Secondary sources (“documentary” or secondhand accounts), if used at all, are to be carefully subjected to internal criticism in order to check the “accuracy” and “worth” of the statements contained according to laws of “reason,” probability, competence, or bias and to external criticism in order to check genuineness, variance (in the event of multiple copies of a text), authorship, or originating context. The possibility of reading the text–context dimension is ensured due to the amalgamation of differences between accounts and facts, observations, opinions, and events.

39.4 Rethinking the Text of Historiography After Semiotics

Intellectual or cultural history as historiography—or the writing of history—renders the contour of form or shape to a body of evidence. By situating the focus of inquiry directly within the discursive mode of historiographic methodology as praxis, that is, the rereading and rewriting of history, the epistemological and theoretical precepts which posit the ontology and “truth” of the past to be manifest in the relation between the representational surface of the discursive form comprising a text (the intellectual object produced in a given context) and its conceptual content (the contextually motivated set of ideas referred to) are problematized. Hadyn White has engaged in a critical practice entailing the (ana-)troping of the text of historiography according to the tetradic distinctions of metaphor, metonymy, synecdoche, and irony inherent in discourse. White’s mode of textual analysis itself reflects a semiological theorizing of thought and language found in the earlier work of Michel Foucault (also that of Vico, Freud, Piaget, Frye, among others; see White 1973; 1978; 1987). The source of meaning-making potential comprising the function of intellectual historiography is actualized to be in the semiological features of its production, or its *trop(ologiz)ing* of the details surrounding the individuals and events related to a reader in the discourse of a narrative-based text, rather than in its claims to facticity, objectivity, or truth in the distribution or consumption of meaning generated from the research act (White 1987). Scrutinizing the rewriting of history in this sense requires the self-reflexive investment of the historiographer’s active intellectual engagement with the world as text, not as facts, but as a necessarily subjective rendering of a constructed facticity within a discursive mode of representation.

Replacing the concepts “word” and “representation” with the concepts “sign” and “signification” places the question of the production, distribution, and consumption of meaning decisively in a post-Saussurian realm of semiological analysis that sublimates the tendency of intellectual historiography to discern the text–context (“inside–outside”) relation on the basis of privileging autotelicity so as to distinguish the “real” from the “imaginary,” whether it be through the study of a

primary sources or the production of a historical text. The blurring of the text–context distinction raises fundamental questions about the nature and possibility of accessing, meaning pre-reflexively outside of recourse to discursive acts: What does “reality” look like outside of discourse? How would we access it independently of language? How do we know when it has been accessed without its reinscription in discourse? How do we know our views of it were faithful to it? and so on. In semiological terms, it prevents according to the function of determining the ontology of an extra-discursive “reality” to the degree of autotelicity within the mode of signification evident in the discourse of a text, which requires as a conditional presupposition, that the signifier is at once a self-referential and self-interpreting, transcendental objectification of the external world (signifier=signified/sign=referent). In *The Discourse of History*, Barthes (1981) asked:

Does the narration of past events, which, in our culture from the time of the Greeks onwards, has generally been subject to the sanction of historical “science,” bound to the underlying standard of the “real,” and justified by the principles of “rational” exposition—does this form of narration really differ, in some specific trait, in some indubitably distinctive feature, from the imaginary narration, as we find it in the epic, the novel, and the drama? (p. 7)

Based on the substitution of conceptual content (a signified) for a referent, “in ‘objective’ history, the ‘real’ is never more than an unformulated signified, sheltering behind the apparently all-powerful referent. This situation characterizes what might be called the *realistic effect* (*effet du réel*)” (Barthes 1981, p. 17). The common aspects of semiological decoding apparatus applied to varying modes of discourse production determines the source of meaning creation to be in relation to the arbitrary differences between constituent signs removed from reality, perfunctory in any referential respect, due to the supplementarity inherent in their nature—signs stand for something else (Derrida 1974; Eco 1979). The concatenation of signifiers comprising a text renders the explanatory function of narrative open to the possibilities of an infinitely recursive interpretative diversity due to the contingency of ideological influence upon the means of decoding, in that the instability of the signified–signifier relation (in any analogous, motivational or correlational sense) defers and disperses any trace of the possibility for final closure of reference through the “play” of *différance* (see Derrida 1974; Eco 1984).

39.5 Where Is History?

It is in the subtle interplay of past and present discourses, the dialogic relation between the intellectual historiographer (or the historical text) and the ideologically motivated reflections of the subject(s) of inquiry appearing in various textualized forms characteristic of the production, distribution, and consumption of meaning in a specific culture, that the interpretative task of intellectual historiography is achieved (LaCapra 1980; White 1987). Intellectual historiography can then be considered one of a series of constantly shifting discourses about the world which does not reappropriate its “facticity” but endows it with interpretative meaning(s)

embedded in a recitative mode of signification stretching across a specific spatiotemporally governed framework through which the subject of the discourse is figurativized by the historiographer's rereading and rewriting of the subject's story framed against the fabric of a particular cultural context (White 1978; 1987). Situating the text–context nexus in the temporal dimensions of its semiological relation allows for the interpolation of freer, interpretative-based frameworks, more suitable to contemporary intellectual historiography:

The historian seeks to locate and interpret the artifact temporally in a field where two lines intersect. One is verticle, or diachronic, by which he establishes the relation of a text or a system of thought to previous expression in the same branch of cultural activity (painting, politics, etc.). The other is horizontal, or synchronic; by it he assesses the relation of the content of the intellectual object to what is appearing in other branches or aspects of a culture at the same time. (Schorske 1980, p. 21–22)

The two-dimensional conceptualization of cultural space permits the placement of the “intellectual objects” of inquiry, textual artifacts, both in the historical niche of the genre or discipline governing their production, contemporaneously with other cultural productions, and in their relations with different referents located in other fields of the social totality (socioeconomic or political) which inevitably affect their distribution and consumption. To read a “textual” artifact or decode a discursive system of thought expression is to amalgamate these different questions that constitute, in their articulation, what can be considered to be the objective of intellectual history. To invoke the other of the “sign of history” is not to privilege the possibility of a Foucauldian archeology of madness. A history of history without teleological reason will always beckon gestures toward a nihilism of enforced silences, engendered by intellectual practices of exclusion as Jacques Derrida has demonstrated via the deconstruction of metaphysics and its nonethical stance toward difference. To entertain the possibilities of rewriting the historicity of history is to explode the boundaries of a philosophical tradition and its epistemologico-theoretical exigencies that delineate the intellectual foundations of meaning and reason itself. That is, to engage in a critical questioning of the reason of history as a form of understanding and as a means of representing the differences of the human intellect and its practices over time.

39.6 The End of History: After Modernism and Postmodernism

The break of postmodern theorizing with the foundationalism of modernity has been much celebrated, but where this “epistemological rupture” leads remains a highly contested issue with respect to history. On the one side, the more apophatic factions within the postmodern debate envision the presently confused critical condition as the result of an apocalyptic resignation looking forward in space and time to the end of history: all options will soon be exhausted in *toto*, leaving no “tangible” future from which to realize the human progression of a history of meaning. On the other,

more optimistic factions view the current condition of postmodern critical collage as an extension of interpretative differences denied a modernist view of history and seek to portray the alterity of the re-representation of ideas by a linking of the cultural sphere of knowledge to an intertwining of discourses exhibiting an endless intertextuality of expressive forms. The fractured pluralism of our times has given rise to the need for a revitalization of theorizing and of expression, for example, a metafictional antigenre of writing that might successfully cohabit with the ideological vicissitudes of a postmodernist politics of knowledge has arisen to represent the history of everyday life. The critical subtlety of a postmodern consciousness engenders an acceptance, if only a relative one, of the very belief systems it attempts to subjugate and to problematize by incorporating them within the boundless textuality of its pliant corpus. In this fashion, perspectival standards are immanently assessed so as to permit for aesthetic forms and social formations to be problematized by critically situated reflection, relating the postmodern dilemma of difference and history more specifically to the growing discipline of cultural studies. Individuals can no longer subscribe to critical absolutes within such a magnitude of contradictory understandings of reality pervading societies. Systematized traditions can offer insights for a critical consumption of their relative value as discourses of difference or examples of otherness so as to change the force of “old arguments” in light of more original and more radically open perspectives. Whereas theoretical absolutism has offered a autotelic histories rooted in evidentiary processes of form, a postmodern perspective of history that would, more often than not, embrace an acceptance of plurality and of difference within hermeneutic frameworks, but through a self-critical analysis of the discursive structuring of the conceptual layout of arguments related in order to bring to the surface any “blind spots” (i.e., contradictions of position, ideological hierarchies, etc.). Such a “deconstructive reading” would play the language or themes of a text against itself to test the solidity of the logic of its conceptual foundations (Derrida 1974). Deconstruction reveals the argumentative means organizing the authority of a subject position taken up in a text by evaluating the preoccupations of discourse that follow the linguistic structuring of a perceived reality. Derrida (interviewed in Kearns and Newton 1980, p. 21) warns of the dangers of instrumental uses of deconstruction to unilaterally reject all claims to knowledge:

I would never say that every interpretation is equal... The hierarchy is between forces and not between true and false.... I would not say that some interpretations are truer than others. I would say that some are more powerful than others. The hierarchy is between forces and not between true and false. There are interpretations which account for more meaning and this is the criterion.

The external and internal interactions of the “system of forces” acting to generate meaning-making potential (to which Derrida has often referred to as the outcome of the cumulative effects of psychologically motivated factors) are never identical for any two individuals (see Derrida 1976). Every individual brings to an act of reading and writing the mental differences of a subjective identity drawn from experiences that have inculcated the (un)conscious formation of a personalized psychic

reality. The interpretation of history depends on the role of difference in the formation of a subjectivity constantly deconstructing and reconstructing the meanings of experience.

No-one is free to read as he or she wants. The reader does not interpret freely, taking into account only his own reading, excluding the author, the historical period in which the text appeared and so on. . . . I think that one cannot read without trying to reconstruct the historical context but history is not the last work, the final key, of reading. (Derrida in Kearns and Newton 1980, pp. 21–22)

Derrida's explanation, at odds with the hyperrelativism attributed to deconstruction by its critics, leaves open a hermeneutical space or "gap" in which to explore the significance of the intentionality of meaning (re)constructions to be derived from the reading of history, while simultaneously suggesting that such considerations are to be seen as but a single agent coloring the discursive mediation of experience resulting in the textualization of "reality." Perspectives may not be consciously "selected," but differences within the discursive conditions of experience forefront a variety of subject stances that therefore concede a surplus of positional definitions.

Postmodern theoretical discourses engage in criticism removed from nurturing the isolation of personal meaning making by constantly searching for "the possible" in "the unlikely" or "the improbable." And the iconoclastic experimentalism of this epistemological adventurousness is valorized by the gravity of Jencks' (1992, p. 11) post-metaphysical observations: "The uncontested dominance of the modern world view has definitely ended. Like it or not the West has become a plurality of competing subcultures where no one ideology and episteme dominates for long." Rather than helping to create an adversely competitive environment that would deny "subcultures" the right to be heard over the monologue of dominant metanarratives of Western history. Accepting the heterogeneity of perspectives within contemporary societies requires legitimating the postmodern interplay among a variety of differing voices (Lyotard 1984). What then is history, but a writing of the other through the self?

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Chapter 40

Identity Today and the Critical Task of Semioethics

Susan Petrilli

40.1 Responsibility, a Human Prerogative

To develop the general science of signs in the direction of semioethics means to evidence mankind's social, political, and ethical responsibilities toward semiosis in all its aspects (see Petrilli and Ponzio 2003, 2010, 2008b). In an article of 1949 entitled "Why Socialism?," originally published in the inaugural issue of the journal *Monthly Review* and proposed again in 2009 to celebrate the journal's 60th birthday, Albert Einstein (1879–1955) claims that while science cannot create ends for human beings, it can supply the means by which to attain given ends. The ends themselves are conceived by personalities with high ethical ideals which are carried forward by human beings who, in the main unconsciously, determine the slow evolution of society. The same principle may be applied to semiotics as the general science of science, especially when developed in the direction of semioethics (see Petrilli 2014a). Progress and understanding do not imply only knowledge in a strictly technical or neutral sense but closely involve values and human relationships. Einstein underlines the problem of responsibility and the need for coparticipation in the common quest for progress and well-being of humanity. However, when a question of human problems arises, we must not overestimate science and scientific methods, nor assume that experts alone have a right to express themselves on questions affecting the organization of society. Responsibility is a prerogative of mankind and should be promoted through an educational system that is oriented toward social goals. Rather than promote such values as power, competition, and acquisitive success in preparation for a future career, education should encourage development of the individual's abilities together with a sense of responsibility for the other, whether human or nonhuman, distant or less distant.

In "Why Socialism?," Einstein prefigures the development of present-day globalization when he describes humanity as already constituting "a planetary com-

S. Petrilli (✉)
The University of Bari "Aldo Moro", Bari, Italy
e-mail: susan.petrilli@gmail.com

munity of production and consumption”: “the time—which looking back seems so idyllic—is gone forever when individuals or relatively small groups could be completely self-sufficient” (Einstein 2009, p. 58). He denounces the evils caused by the “economic anarchy of capitalist society,” of all the crippling of individuals, in a system where members of the community strive to deprive each other of the fruits of their collective labor, not by force but in compliance with the law. In fact, the entire productive capacity may legally be the private property of individuals. In a system where production is carried out for profit and not for use, private capital tends to become concentrated in the hands of few. Moreover, with the alliance between legislative bodies, political parties, and private capitalists who provide the necessary financial support, a truly democratic political system cannot be guaranteed, with the consequence that the interests of the exploited and underprivileged sections of the population are not sufficiently protected. Add to this the fact that the capitalist not only owns the means of production but also controls the main sources of information, from the press to the educational system. In the present day and age, the ruling class is the class that controls communication, as Ferruccio Rossi-Landi amply demonstrated in the 1960s and 1970s with his acute semiotic analyses of the relation between signs, ideology, and social planning. Nor can we ignore that the globalized world enacts a social system that is based on profit, privilege, and power and is guaranteed by control over communication (eloquent cases are represented by the media magnates Rupert Murdoch and Silvio Berlusconi).

Einstein’s article was published at a time of crisis and instability, of violence and destruction in the aftermath of the Second World War. In the face of offended humanity, of widespread solitude and isolation, he questions social behavior and the possibility of a future, convinced that another world war would mean the end of society. In the face of concern for the well-being of the single individual as much as of society at large (formed of individuals) which, translated into semiotic terms, resounds as concern for the health of semiosis, consequently for life, we must inevitably ask the question, “Is there a way out?” Einstein’s answer focuses on the relational and social constitution of the human being in terms that very much recall reflections in a semiotic key by such thinkers as Charles Peirce, Victoria Welby, and Charles Morris, author of the *The Open Self* published in 1948, just a year before publication of Einstein’s own article “Why Socialism?” Each of these scholars evidence in their own terms the irrepressible interconnection between identity and otherness, self and other, the human being as a single individual and society, between singularity and sociality. In the words of Charles Morris:

Man is, at one and the same time, a solitary being and a social being. As a solitary being, he attempts to protect his own existence and that of those who are closest to him, to satisfy his personal desires, and to develop his innate abilities. As a social being, he seeks to gain the recognition and affection of this fellow human beings, to share in their pleasures, to comfort them in their sorrows, and to improve their conditions of life. Only the existence of these varied, frequently conflicting, strivings accounts for the special character of a man, and their specific combination determines the extent to which an individual can achieve an inner equilibrium and can contribute to the well-being of society. It is quite possible that the relative strength of these two drives is, in the main, fixed by inheritance. But the personality that finally emerges is largely formed by the environment in which a man happens to find himself during his development, by the structure of the society in which he grows

up, by the tradition of that society, and by its appraisal of particular types of behavior. The abstract concept “society” means to the individual human being the sum total of his direct and indirect relations to his contemporaries and to all the people of earlier generations. The individual is able to think, feel, strive, and work by himself; but he depends so much upon society—in his physical, intellectual, and emotion existence—that it is impossible to think of him, or to understand him, outside the framework of society. It is “society” which provides man with food, clothing, a home, the tools of work, language, the forms of thought, and most of the content of thought; his life is made possible through the labor and the accomplishments of the many millions past and present who are all hidden behind the small word “society.”

[...] dependence of the individual upon society is a fact of nature which cannot be abolished—just as in the case of ants and bees. However, while the whole life process of ants and bees is fixed down to the last detail by rigid, hereditary instinct, the social pattern and interrelationship of human beings are very variable and susceptible to change. Memory, the capacity to make new combinations, the gift of oral communication have made possible developments among human beings which are not dictated by biological necessities. Such developments manifest themselves in traditions, institutions, and organizations; in literature; in scientific and engineering accomplishments; in works of art. This explains how it happens that, in a certain sense, man can influence his life through his own conduct, and that in this process conscious thinking and wanting can play a part. (Morris 1948, pp. 57–58)

According to Einstein, the essence of the crisis of his own day concerns the nature of the relationship of the individual to society, and finds expression in the dominant tendency in the direction of egotism and isolation. In the capitalist reproduction system, the individual has become more conscious of his dependence on society, and this condition is perceived as a threat to one’s natural rights or even to one’s existence in terms of economy. But the truth is that from the point of view of the properly human, the single individual can only find the sense and meaning of life in sociality, that is, by cultivating the otherness dimension. Again to evoke Morris:

Moreover, his position in society is such that the egotistical drives of his make-up are constantly being accentuated, while this social drives, which are by nature weaker, progressively deteriorate. All human beings, whatever their position in society, are suffering from the process of deterioration. Unknowingly prisoners of their own egotism, they feel insecure, lonely, and deprived of the naïve, simple, and unsophisticated enjoyment of life. Man can find meaning in life, short and perilous as it is, only through devoting himself to society. (Morris 1948, p. 59)

40.2 Otherness, Dialogism, and Intercorporeity: On Sign and Communication Models

The semiotics of Charles S. Peirce covers many aspects that orientate it dialogically, on the one hand, and contribute toward a more profound understanding of dialogic structure and practice, on the other. His thought–sign theory evidences the dialogic structure of the self-imagined as developing in terms of dialogue between a thought acting as a sign and another sign acting as an interpretant of the previous sign. The Peircean sign model has now gained wide consensus in the sign sciences, especially general semiotics, philosophy of language, and related disciplines

(see Peirce 1982–1993). This particular sign model has been gradually supplanting the Saussurean model, which because of the general success enjoyed by structuralism has spread from linguistics (and semiology) to other human sciences that refer to linguistics as their model, significantly influencing them, as in the case of structural anthropology in the interpretation of Claude Lévi-Strauss.

We know that the Saussurean sign model is rooted in a series of dichotomies such as *langue* and *parole*, *signifiant* and *signifié*, *diachrony* and *synchrony*, and the *syntagmatic* and *paradigmatic* axes of language (Saussure 1916). These paradigms have been related to the mathematical theory of communication (Shannon and Weaver 1949) and reformulated in such terms as *code* and *message*, *transmitter* and *receiver*. This explains why semiotics of Saussurean derivation has been described as “code” or “decodification semiotics” (Rossi-Landi 1968, 1975), “code and message” semiotics (Bonfantini 1984, 1987, 2004; Eco 1984, 1990), and “equal-exchange semiotics” (Ponzio 1973, 1977, 1993). Despite their reductionist approach to expressive and interpretive processes, these concepts were thought to adequately describe all types of sign processes: not just the *signal* type relative to information transmission but also complex sign processes; therefore, the sign in *strictu sensu* is relative to the different aspects of human communication in its globality (for the distinction between sign and signal, see Voloshinov 1929).

In the framework of “decodification semiotics,” the sign is divided into two parts: the *signifier* and the *signified* (respectively, the sign vehicle and its content). These are related on the basis of the principle of *equal exchange* and *equivalence*—that is, of perfect correspondence between communicative intention (which leads to codification) and interpretation (intended as mere decodification). In Italy, this sign model was earlier criticized by Ferruccio Rossi-Landi (1961), who described it ironically as a “postal package theory.” As Rossi-Landi pointed out, decodification semiotics proposes an oversimplified analysis of communication in terms of messages (the postal package) complete in themselves, which pass from a sender to a receiver (from one post office to another) ready for registration: All the receiver needs to do is decipher the content, decode the message.

Furthermore, as amply demonstrated by Rossi-Landi and subsequently by his collaborator, Augusto Ponzio, the Saussurean sign model is based on value theory as conceived by marginalistic economy from the School of Lausanne (Walras and Pareto). Assimilation of the study of language to the study of the marketplace in an ideal state of equilibrium gives rise to a static conception of the sign. In this framework, viewed synchronically, the sign is dominated by the logic of perfect correspondence between that which is given and that which is received, that is, by the logic of equal exchange which currently regulates all social relations in today’s dominant economic system (see Ponzio 2008b).

However, so-called “interpretation semiotics” evidences the inadequacy of the sign model subtending decodification semiotics. “Rediscovery” of interpretation semiotics no doubt has been favored by new orientations of a sociocultural order associated with signifying practices intolerant of the polarization between code and message, *langue* and *parole*, language system and individual speech. Detotalizing and decentralized signifying practices tend to flourish, as the centripetal forces

in linguistic life and sociocultural life generally tend to weaken. These privilege the unitary system of the code over the effective “polylogism,” “plurilingualism,” “multiaccentuativity,” and “pluri-availability” of signs and language. Moreover, by comparison with the claim to totalization, implied by the dichotomies elaborated by decodification semiotics, the categories of interpretation semiotics keep account of the “irreducibly other,” as theorized by both Mikhail M. Bakhtin and Emmanuel Levinas (see Ponzio 2008a; Petrilli 2012b, c).

That the instruments provided by decodification semiotics are inadequate for a convincing analysis of the distinguishing features of human communication had already been demonstrated by Valentin N. Voloshinov (therefore by Bakhtin who spoke through Voloshinov among others) in his monograph of 1929 *Marxism and the Philosophy of Language* (Eng. trans. 1973). Reference is to such features as “plurilingualism” which includes “internal plurilingualism” (when a question of different languages internal to a single so-called “national language”) and “external plurilingualism” (the plurality of different languages beyond the boundaries of any one language), “plurivocality,” “polylogism,” “ambiguity,” “polysemy,” “dialogism,” and “otherness” (see Bakhtin 1981). Even if we limit our attention to the characteristics just listed, it is obvious that verbal communication cannot be contained within the two poles of *langue* and *parole*, as had been theorized instead by Saussure. Signs cannot be reduced to the mere status of signality: That which characterizes the sign in a strong sense by comparison to the signal is the fact that its interpretive potential is not exhausted in a single meaning. In other words, the signifier and the signified do not relate to each other on a one-to-one basis. As mentioned above, meaning cannot be reduced to the status of an intentional message formulated according to a precise communicative will. Consequently, the work of the interpretant sign is not limited to the very basic operations of identification, mechanical substitution, or mere recognition of the object-interpreted sign. By contrast with signals, signs at high levels of semioticity cannot be interpreted simply by referring to a fixed and preestablished code: To interpret, to interpret signs does not simply mean to decodify them.

Moreover, sign models are intimately related to our conception of the subject: In the perspective of decodification or equal-exchange semiotics, the subject is rooted in the logic of identity at low degrees of otherness or dialogism. According to this approach, the subject coincides perfectly with consciousness and has full control over the sign processes that one is concerned with; therefore, the subject is convinced that what a message communicates is completely determined by intentional will as sender and encoder.

On the contrary, those trends in semiotics which somehow refer to “interpretation semiotics” (as distinct from “decodification semiotics”) and to the Peircean sign model describe the generation of meaning as an ongoing, dynamic, and open-ended process without the guarantees of code-regulated exchange relations between signifiers and signifieds (see Eco 1984; Peirce *CP* 5.284). In “Semiotics between Peirce and Bakhtin,” Ponzio associates categories developed for the study of signs by two epochal thinkers, Charles Peirce and Mikhail Bakhtin, and in this light demonstrates how the sign model proposed by decodification or equal-exchange semiotics is

oversimplifying and naïve (Ponzio 1990a, pp. 252–273). In fact, according to this model the sign is: (1) at the service of meaning preestablished outside communication and interpretation processes, (2) considered as a pre-constituted and passive instrument in the hands of a subject who is also given and preestablished antecedently to semiotic and communicative processes; therefore, capable of controlling and dominating signs and sign processes at will, and (3) can be decoded on the basis of a preexisting code shared by partners in the communicative process.

Instead, the sign model proposed by interpretation semiotics is triadic (at least) and is largely constructed with reference to Peirce's astounding classification of signs: In particular his tripartite division of the interpretant into "immediate interpretant," "dynamic interpretant," and "final interpretant," and his most renowned triad that distinguishes among "symbol," "index," and "icon," etc. Peirce places the sign in the dynamic context of semiosis, open-ended, infinite semiosis, which also means in the context of the dialectic and dialogic relationship with the interpretant. Keeping account of such aspects, Ponzio's association of Peirce and Bakhtin is highly relevant: Bakhtin places the sign in the context of dialogism and intercorporeity (in which alone can the sign fully flourish as a sign) and describes signs and sign processes in the dynamic terms of "text," "otherness," "dialogism," "responsive understanding," "answerability," "intertextuality," "polyphony," "extralocalization," "multiaccentuativity," "unfinalizability," "plurilingualism," "listening," etc. (Bakhtin 1970–1971, 1990, 1993; Barthes 1981, 1982). Though working independently of each other and despite their different focus—Peirce worked mostly on questions of a cognitive order, Bakhtin on literary language which he used as a kaleidoscope for his own philosophical work on signs and language—both scholars recognize the fundamental importance of the logic of dialogism and otherness for an adequate understanding of semiosis and the ethical and pragmatic dimensions of signifying processes. In fact, both also focus their attention on what we have identified as the "semioethical" implications of semiosis (see Petrilli and Ponzio 2003, 2005; Petrilli 2010).

40.3 The Dialogic Nature of Signs, Interpretation, and Understanding

The word is structurally a dialogic word—a word born in relation to the other, as such the word is a response, an answer, a reply, and a question. The constitutive character of understanding is dialogic. Dialogue is an external or internal discourse where the word of the other, not necessarily of another person, interferes with one's own word. Reading together the works of Peirce and Bakhtin has led to the elaboration of a sign model that is dialectic or "dialogic" (that is, the result of dialectics grounded in dialogism) according to which sign and semiosis converge. Considered dialectically or, better, dialogically, the sign does not emerge as an autonomous unit endowed with a preconstituted and predefined meaning, with a value of its own determined in the relationship of mechanical opposition with the other units forming

the sign system. Once the sign is no longer viewed as a single element or broken down into its component parts, it is difficult to say where it begins and where it ends. The sign is not a thing, but a process—the intersection of relations which are social relations (Ponzio 2006a).

Bakhtin works on the concept of text which, like the sign, can only flourish and play the game of understanding and interpretation in the light of a still broader context: The intertextual context of dialectic/dialogic relationships among texts. The sense of a text develops through its interaction with other texts, along the boundaries of another text. Bakhtin's approach to signs and language gives full play to the centrifugal forces of linguistic-cultural life, theorizing otherness, polysemy, and dialogism as constitutive factors of the sign's identity. Says Bakhtin in his essay of 1959–1961, "The Problem of the Text in Linguistics, Philology, and the Human Sciences: An Experiment in Philosophical Analysis":

The text as utterance included in the speech communication (textual chain) of a given sphere. The text as a unique monad that in itself reflects all texts (within the bounds) of a given sphere. The interconnection of all ideas (since all are realized in utterances). The dialogic relationships among texts and within the text. The special (not linguistic) nature. Dialogue and dialectics. (Bakhtin 1986, pp. 104–105)

The categories developed by decodification semiotics are oversimplifying especially in their application to discourse analysis, writing, and ideology. On the contrary, interpretation semiotics with its theories of sense, significance, and interpretability ("interpretanza," Eco 1984, p. 43), with its broad, dynamic, and critical conception of the sign accounts more adequately for signification and communication, providing a far more comprehensive description of human interaction. As anticipated, the sign model developed by decodification semiotics is founded on the logic of equal exchange, on the notion of equivalence between one sign and another, between the *signifiant* and the *signifié*, the system of language and the utterance (*langue/pa-rolle*), etc. Instead, the sign model developed by interpretation semiotics is grounded in the idea of deferral forming the open chain of signs, of *renvoi* among signs in a triadic progression whose minimal factors include the sign, object, and interpretant. However, it is important to underline that these factors only effectively emerge in semiotic processes and are connected by a relation of noncorrespondence determined by the logic of excess and otherness. According to such logic, the interpretant sign never corresponds exactly to the previous sign, but says something more, developing and enriching it with new meanings.

A sign, or *representamen*, is something which stands to somebody for something in some respect or capacity. It addresses somebody, that is, creates in the mind of that person an equivalent sign, or perhaps a more developed sign. That sign which it creates I call the *interpretant* of the first sign. The sign stands for something, its *object*. It stands for that object, not in all respects, but in reference to a sort of idea, which I have sometimes called the *ground* of the representamen. (*CP* 2.228)

The interpreter/interpretant responds to something and in so doing becomes a sign which in turn gives rise to another interpretive response, etc. From this perspective, the function of the interpretant sign is not limited to merely identifying the previous sign, but rather is taken to various levels of responsive understanding (or

answering comprehension) which implies the existence of a concrete dialogic relationship among signs regulated by the principle of reciprocal otherness. As Bakhtin says (1986, p. 127): “Being heard as such is already a dialogic relation. The word wants to be heard, understood, responded to, and again to respond to the response, and so forth *ad infinitum*.” Semiosis ensues from this live relation and certainly not from an abstract relation among the signs forming a sign system. Bakhtin’s concept of “responsive understanding” may be associated with Peirce’s “dynamic interpretant.” And like Peirce, Bakhtin believes that the human being is made of sign relations, sign activity. As explicitly analyzed by Voloshinov (1927), both the conscious and the unconscious are made of sign material, that is, dialogically structured verbal and nonverbal sign material.

In the situation of *impasse* characterizing decodification semiotics, Peirce’s approach represents a means of escape. His *Collected Papers*, which include studies on signs going back to the second half of the nineteenth century, only began appearing in 1931 and have the merit (among others) of recovering the forgotten connection with sign studies from the Middle Ages (for example, Peter of Spain’s *Tractatus*¹ is cited frequently by Peirce). In his famous paper of 1867, “On a New List of Categories,” Peirce describes the concepts he believed most suitable for a satisfactory analysis of the polyhedric nature of the sign. However, an even more articulate version of this description is generally considered to be his letter of 12 October 1904 to his correspondent, Victoria Lady Welby, in which, with reference to the relationship between signs and knowledge, he maintains that

a sign is something by knowing which we know something more. With the exception of knowledge, in the present instant, of the contents of consciousness in that instant (the existence of which knowledge is open to doubt) all our thought & knowledge is by signs. A sign therefore is an object which is in relation to its object on the one hand and to an interpretant on the other in such a way as to bring the interpretant into a relation to the object corresponding to its own relation to the object. I might say “similar to its own” for a correspondence consists in a similarity; but perhaps correspondence is narrower. (Peirce to Welby, in Hardwick 1977, pp. 31–32)

According to Peirce, a *sign* stands to someone for something in some respect or capacity. The sign stands to someone in the sense that it creates “an equivalent sign, or perhaps a more developed sign” in the *interpreter*; that is, it creates an *interpretant* sign (CP 2.228). Moreover, the sign stands for something in some respect or capacity in the sense that it does not refer to the *object* in its entirety (*dynamic object*), but only to some part of it (*immediate object*). A sign, therefore, subsists for Peirce according to the category of *thirdness*; it presupposes a triadic relation between itself, its object, and the interpretant thought, itself a sign. Given that it mediates between the interpretant sign and the object, a sign always plays the role of *third party*.

Peirce’s semiotics focuses on the concept of interpretation, identifying meaning (which Saussurean semiology leaves unexplained) in the interpretant—that is to say, in another sign which takes the place of the preceding sign. Insofar as it is a sign, the interpretant only subsists by virtue of another interpretant in an open-ended chain of deferrals forming the “semiotic flux” (for this expression, see Merrell 1996) thanks to the potential creativity of interpretive processes. According to this perspective,

semiosis is not guaranteed a priori by appealing to a code fixed antecedently to a specific semiosis, for the code itself even does not subsist outside interpretive processes, but rather is established and maintained as a function of semiosis.

“Mediation,” which is closely interrelated with interpretation and infinite semiosis, is another fundamental concept in the architectonics of Peirce’s thought system. The sign is mediated by the interpretant, without which it cannot express its meaning and in turn mediates the relationship with the object in any interpretive act whatsoever, from the simplest levels of perception to the most complex levels of knowledge. Meaning does not effectively reside in the sign, but in the relationship among signs.

Peirce’s semiotics has been mostly read as cognitive semiotics in which logic and semiotics are related on the basis of the assumption that knowledge is mediated by signs, indeed is impossible without signs. Interpretation semiotics replaces the dichotomy between signifier and signified with the triadic relationship between sign, object, and interpretant where the type of sign produced, in particular whether symbol, index, or icon, is a question of which relationship predominates (symbolic, indexical or iconic) in the connection between sign, object, and interpretant; but whichever it is, the role of the interpretant remains fundamental. Meanings evolve dynamically in open interpretive processes: The greater the degree of otherness in the relationship between interpretant sign and interpreted sign, therefore of dialogism, the more interpretation develops in terms of active dialogic response, creative reformulation, inventiveness, and critique rather than mere repetition, literal translation, synonymic substitution, and identification.

40.4 Subjectivity and Interpretation

The description of signifying processes in terms of unending semiosis, of interpretive processes characterized by dialogic responsiveness, deferral or *renvoi* among signs, has consequences for a theory of subjectivity. In fact, by contrast to decodification semiotics, interpretation semiotics does not frame the concepts of identity and subject as closed, coherent and unitary entities. Otherness is placed at the very heart of identity, is constitutive of identity, which is described as developing in the dialectic and dialogic dynamics of the relation between the sign and its interpretants in thought processes forming the single conscious, and in the relationship among the conscious of different subjects. Identity, the subject, consciousness develop in open-ended semiotic processes, evolving through the dynamics of responsive understanding, dialogism, and otherness in the interchange between the thought-sign and the interpretant.

For both Peirce and Bakhtin, the self is constructed dialogically in the translative/interpretive processes connecting thought-signs with interpretants in open chains of deferral: In this framework alone, where the self is always other and is never definitively present to itself, can the self effectively subsist as self. Therefore, the self–other relationship not only concerns the more obvious case of the relationship

among the “selves” of different subjects, among the conscious of different external selves but also applies to the multiple “selves” forming a single, “individual” conscious. The subject does not preexist with respect to interpretive processes which supposedly contain it, nor does the subject control these interpretive processes from the outside. From this point of view, the term “subject” is misleading when it implies the concept of identity understood as indicating a monologic and monolithic block, a well-defined and coherent entity. Instead, the self converges with the chain of sign–interpretant relations in which it recognizes itself, to the point that experience of the self of another person is not a more complex problem than recognition of certain sign–interpretant relations as “mine,” those through which “I” become aware of myself. Consequently, says Peirce, just as we say that a body is in movement and not that the movement is in a body, we should say that we are in thought and not that thoughts are in us.

Given that the relation with the other is the condition for the constitution of the “I,” the individual thought, the word, otherness is structural to the constitution of the subject, to identity, to the “I” which in fact is itself a dialogue, a relation between the same and the other. Therefore the “I” is constitutionally, structurally, dialogic and testifies to the relation with otherness, whether the otherness of others or of self. Otherness is located inside and outside the subject. Philosophers like Peirce and Bakhtin describe dialogue as the modality of thought itself. This *substantial dialogism* of the word is connected with the capacity for otherness and is at the origin of the philosophical word.

An important distinction is that between “substantial dialogism” and “formal dialogism.” Substantial dialogism is not given by the dialogic form of the word or text (for example, Socrates’s dialogues in texts written by Plato), but by the degree of dialogism operating in a word or text whether it takes the form of a dialogue or not. Substantial dialogism is determined by the (higher or lower) degree of otherness. Socratic dialogue as represented by *Menon* is a formal dialogue at low degrees of substantial dialogism (maybe the lowest of all Plato’s dialogues). Here, dialogue is inquisitorial examination where the other (the slave boy) is induced to reach a conclusion that is predetermined by the person interrogating him (Socrates), who already knows the correct answers. Whereas Plato’s *Symposium* is an illustration of Socratic dialogue at relatively higher levels of substantial dialogism.

Dialogism, as we are describing it, implies a vital relation with others in the acquisition of experience and understanding. Human life is dialogic in the sense that human beings are inextricably interconnected with the world and with others, with the body of others in the species-specific terms of culture and civilization. The life of the individual and of the community is implied dialogically in otherness, in the intercorporeal relation, in the relation to the body of other living beings, whether human or nonhuman, as thematized by Bakhtin (1965) with his concept of the “grotesque body.” From a Bakhtinian perspective, dialogism and intercorporeity are closely interconnected (see Bakhtin 2008). Dialogue is not possible among disembodied minds. In fact, dialogism can be more fully understood in the framework of a biosemiotic (though not reductively biologicistic) conception of sign. It is not a coincidence that, according to standard historical

reconstruction, Greek philosophy and science began outside Greece proper, in one of its colonies, Ionia, precisely in the city of Miletus, a crossroad of commercial exchanges, a point of encounter among different ideas, traditions, customs, and languages from many countries of the East and of the West.

40.5 Otherness Between Singularity and Interconnectedness

Viewed in a (bio)semiotic key, the body is sign material structured interconnectedly with other bodies. This is the material through which the self acts, expresses itself, and communicates, in which the self is embodied, but not imprisoned:

When I communicate my thought and my sentiments to a friend with whom I am in full sympathy, so that my feelings pass into him and I am conscious of what he feels, do I not live in his brain as well as in my own—most literally? True, my animal life is not there but my soul, my feeling thought attention are.... Each man has an identity which far transcends the mere animal;—an essence, a meaning subtle as it may be. He cannot know his own essential significance; of his eye it is eyebeam. But that he truly has this outreaching identity—such as a word has—is the true and exact expression of the fact of sympathy, fellow feeling—together with all unselfish interests—and all that makes us feel that he has an absolute worth. (*CP* 7.591)

That identity is embodied subjectivity, intercorporeal semiotic material, that is, incarnated in a body connected to other bodies in open-ended semiotic processes from the very outset, an expression of the condition of semiotic intercorporeity on both a synchronic and diachronic level for the whole of life, that subjectivity is not incarnated in a body that is isolated from other bodies and signs, that the body is in the sign is not indifferent to our conception of human subjectivity. The subject is incarnate sign material from the point of view of biological evolution, of the species, as much as from the point of view of sociality and cultural history.

The body plays a fundamental role in the development of awareness or consciousness. Consciousness is incarnate consciousness. The body is a condition for the full development of consciousness and inferential processes, therefore, of the human being as a “semiotic animal” (Deely et al. 2005). The self develops inter-relatedly and interdependently with other bodies and other signs through which it extends its boundaries, which are also the boundaries of one’s knowledge and experience of the other, indeed of the world at large. Peirce uses the expression “flesh and blood” to refer to the body (*CP* 7.591), which also serves to highlight the different dimensions of the body—the body within the boundaries of physical–organic material, by contrast to the body understood as semiotic material, sign material, which ultimately has a physical referent always, even though it may not be immediately obvious as in the case of dreaming or of silent thought. The word is an extension of the body. Echoing Bakhtin through Valentin N. Volosinov, author of an essay of 1928 on recent tendencies in Western linguistics, the word forms a bridge joining one’s own body to the body of the other; it represents common territory uniting the speaker to the interlocutor such that to speak means somehow to listen and to

respond to the interlocutor's expectations, to the other, to the community. Similarly to the word, the self in Peirce's conception is "outreaching identity," inferential and transcendent identity in the ongoing interrelation between physical–organic materiality and sign materiality.

40.6 The Extracommunitarian Other

But in accordance with the logic of binary opposition, all community identities have their own "extracommunitarian" to fear and from which to defend themselves. The extracommunitarian is the other, different from every other belonging to the same community—different not only from each equal other forming the same community but also from each different and opposite other within that same community. This claim applies to the large collective community as much as to the small community forming personal identity, the individual subject. By contrast with "community" generally understood as indicating a closed community regulated by the logic of identity (Tönnies 1887; in the lexicon of Nazi Germany, *Gesellschaft*, society, was replaced by *Gemeinschaft*, community), this same term may be used (for lack of a better one) to indicate a form of sociality that is open to the logic of otherness, the open community, the "open self," as says Charles Morris (1948). This concept of community is not based on buying and selling labor force and is free from obsession with identity, that is, with closed, egocentric, and shortsighted identity.

Subjectivity is formed by a community of selves variously interconnected either by relations of coherence, dialogue, peaceful coexistence or, instead, by hierarchical relations based on the logic of power and conflict. In any case, these relations concern the same function of self. According to the logic of identity, the other appears as a similar other, "other" in a relative sense, one's "alter ego" with respect to self, manifest in a given role carried out by self with respect to another, etc. However, beyond this community of selves based on the logic of identity and "relative otherness" is the open community based on "nonrelative otherness," that is, "absolute otherness."

Absolute otherness is foundational for identity, the condition for its formation but at once irreducible to it, like the self of self-consciousness. Absolute otherness characterizes each one of us in terms of singularity, uniqueness, and otherness from self; it precedes roles, choices, and standpoints taken by self. Absolute otherness is nonrelative otherness, otherness connected with the body itself: not the individual body, the body as we imagine it to ourselves as self, as subject; but rather the body as the material of intercorporeal interconnection with the world and with others, which precedes the individual body whose level of autonomy, self-sufficiency, independency, freedom, self-belonging is relative to (the imaginary of) the social system it belongs to. The embodied self as it emerges from relations of intercorporeity and interconnectedness with the world, human and nonhuman, with others, is refractory to the tyranny of the subject, to the conscious of egocentric self. The

semiotic materiality of subjectivity, the fact that the self's effective "multiplicity" and the "conscious" do not converge indicates the presence of otherness, absolute otherness, excess within the egological community itself.

Singularity, uniqueness, and absolute otherness of the single individual cannot be reduced to the identity of a genre, an assemblage, a group, or category of any sort—whether sexual gender, race, class, religion, etc. In other words, absolute otherness, singularity, cannot be reduced to the individual's identity determined on the basis of a general category (see Petrilli 2007a, b, c, 2008b, pp. 33–64; Ponzio 2007). Self understood in terms of absolute otherness resists, is not reducible to self understood in terms of relative otherness and identity. Absolute otherness is part of egological identity, it is structural to egological identity, but does not converge with identity, relative otherness, the otherness of any one of the different selves constituting the community identity of each single individual. On the contrary, absolute otherness is the condition for the constitution of relative otherness, an a priori for the constitution of the different I's, the different selves that form community identity. Absolute otherness is before and beyond the constitution of identity, it denotes singularity, the extracommunitarian in each one of us, the eachness of every one of us.

Thanks to the logic of otherness, absolute otherness which characterizes each one of us in our singularity, the communities we constitute and in which we are constituted are extracommunitarian with respect to themselves. With globalization and global communication, the formation of extracommunitarian societies as we are describing them is no less than a necessity worldwide, just as the opposition between West and East has become irrelevant. In extracommunitarian communities, "cultural difference" is best understood in terms of "transculturalism" rather than of "interculturalism" and "pluri- or multiculturalism." Transculturalism implies the welcome, listening, and hospitality toward the other. Instead, interculturalism and pluri- or multiculturalism continue to imply persistence of difference based on the logic of identity, that is, interpersonal relations based on the generic, on indifference and compliant tolerance with respect to the generic other.

On one hand, the subject claims difference relatively to a category, a genre, whether sexual gender, class, race, ethnic group, religion, nation, etc. In this case, difference is connected with identity, identity of the genre, therefore, with the rights of identity, of relative otherness. On the other hand, subjectivity claims difference in terms of singularity, the other outside genre, outside an assemblage of any sort. In this case, difference is connected with the absolute otherness of each and every one of us, therefore, with the rights of the other, of absolute otherness. Singularity or uniqueness represents an excess with respect to identity and social roles acted out by identity, an excess that persists despite all efforts to absorb it. But these efforts only serve to justify attempts at rejecting and expelling the other, at sacrificing and eliminating the other. Absolute otherness of the single, unique individual implies absolute responsibility toward the other, responsibility without alibis. The absolute other calls for hospitality.

The "extracommunitarian" interrogates community identity and its laws, and demands a response. But a satisfactory response to the request for hospitality

made by the extracommunitarian can only come from the condition itself of extracommunitarian, that is, from absolute and nonrelative otherness, from the condition of “otherwise than being” with respect to the closed logic of community identity, the closed community. This response implies critique of the community conceived in terms of closed identity which involves difference–indifference, alibis and limited responsibility, and denial of unindifference, for example, on behalf of race, history, ethnicity, nation, region, religion, political party, and the individual. Community logic tends to exclude, segregate, and sacrifice otherness, absolute otherness, otherness of the single unique individual, but will never succeed in eliminating it completely. The extracommunitarian requests that the community should open to the absolute other, to the request for hospitality, that it should welcome the other.

However, the extracommunitarian’s request for an open community is most often registered as a threat to identity and community assemblages. How many measures and precautions—political, economical, juridical, etc.—are necessary to push away this threat? How many armies, justifications, or alibis? But at the same time this request offers an opportunity—the last?—to free our otherness from the chains of closed identity, which means an opportunity to develop as unique single individuals freed from the hard crust of identity, from identification with a genre, a category, from the logic of interchangeability which this type of identification implies; an opportunity to flourish as single individuals, rendered unique by the condition of unindifference, by the other as witness, by the condition of unlimited and unconditional responsibility for the other, that is, responsibility without alibis. The request for hospitality offers an opportunity to transcend the social as the place of mutual indifference, as the place of encounter and clash among private interests; an opportunity to open all community spaces to the extracommunitarian, that is, to create communities that are structurally extracommunitarian, that are oriented by the logic of continuous detotalization of self, by the capacity for listening to the other, outside the logic of closed identity, for a reformulation of the community, collective and individual, founded on the logic of otherness, nonrelative, absolute otherness.

Identity wants to forget the condition of obsession with the other. But such phenomena as migration and unemployment make this impossible, as they remind us, indeed face us with a fact we already know, that the body already knows: that to exclude the other is impossible. Historical languages, cultures, techniques, industries, markets all know full well that the other can be repressed, but never eliminated. National, ethnic, religious, and ideological identities know this; individual identities, identities connected with class, role, gender, with any type of assemblage or genre know this, even when they persist in their indifference to the other. But above all “intransitive” forms of writing, verbal and nonverbal, know that the other cannot be excluded or evaded; art forms, all those practices free from the obsession with identity, practices that involve nomadism, migration, and shift in structural terms, as part of expressive procedure, know that the other cannot be eliminated.

40.7 Transcultural Communication, Ideology, and Social Planning

Coherently with capitalist ideology, the centre of the world detains control over communication circuits and dominates over the periphery. In other words, in the era of global communication the so-called developed world, which is ever more degraded and dehumanized, continues to exploit the so-called underdeveloped world which is expanding and is ever more proletarianized and pauperized. In a globalizing world, change simply means to readjust the parameters of dominion in terms of a “glocalizing world.” In spite of multinationals, the amplification of communication scenarios, encounter among different cultures, foreignization, we are faced by the same misery: Profit making by a few at the expense of many—which in “globalization” is on the rise: Exploitation is spreading worldwide with the spread of global communication—production imposing itself as the only social reproduction system now possible. This phase in social reproduction is mostly qualified with the prefix “post-.” Another passe-partout expression is “cultural interaction,” which is also applied to translation processes. Other qualifying terms that circulate in global discourse today include “interculturalism,” “multiculturalism,” “hybridization,” and “contamination,” in addition to such expressions as “postcapitalism,” “postcolonialism,” and “postapartheid.”

We know that social reproduction today presents itself in terms of globalization, global communication, and communication—production. Therefore, intercultural or better, transcultural communication is now communication across languages, cultures, and value systems in a globalized world. From a semiotic point of view, to identify the context of communication today in globalization, in global communication—production means to evidence the interconnection between signs, ideology, and social programs as thematized by Rossi-Landi. In his monograph *Language as Work and Trade* (1968, Eng. trans. 1983), he analyzes language in terms of the relation between labor, trade, and consumption in global communication—production circuits, and describes the homology relating the production of artefacts to the production of language.

Sign systems are the material of social reproduction, just as they are the material of human behavior which is social signifying behavior. Behavior, whether conscious or unconscious, is programmed behavior, that is, behavior regulated by social programs. The individual may or may not be aware of the fact that behavior is organized socially, but all the same, as a social being, the individual behaves according to programs. Rossi-Landi distinguishes between “program” properly understood, “project,” and “plan”: A program is part of a project and a project is part of a plan. A plan is what we normally call ideology, and ideology can be defined as a social plan with specific social interests, models, goals, and perspectives. A given ideology is always connected with the interests of a given social group or assemblage (for all these aspects, see Rossi-Landi 1972, 1978, 1992).

That behavior is programmed behavior means that it is part of contexts that are progressively larger, as in a series of concentric circles. Consequently, the idea of

spontaneous or natural behavior in the human world is a mystification, for human behavior is always programmed behavior to varying degrees. Moreover, the idea that ideology has come to an end is simply another ideological mystification, the expression of a specific ideology now become dominant. The social sign systems that regulate individual behavior are pseudo-totalities that function as pieces in larger totalities. All social programs are controlled by a higher social level. The social interests of given communities are connected with verbal and nonverbal communication programs which are part of given social projects which, in turn, are part of given social plans.

The problem of ideology as social planning raises the problem of power and the conditions that make control over human behavior possible in politically defined situations. The production and circulation of signs converges with the production and circulation of ideologies. Progression from smaller pseudo-totalities and their programs to larger totalities and their programs, projects, and plans, in which the former are inserted, affords a general overview of the control mechanisms that social programs exert upon each other concentrically. The processes involved are mostly retroactive and not unidirectional (in other words, they are not mechanical cause and effect processes, but dialectical processes, or in the terminology of engineering feedback processes). From a semiotic perspective, it is important to underline that this whole system coincides with the general global communication system. Whoever controls the system, or at least consistent parts of it, is in the best position to reach a situation of hegemony and power (see Petrilli 2011, 2014a).

In a world of global markets and global capital, dominant ideology is so pervasive that it converges with the logic of social reality. From this point of view, rather than “logic” the more appropriate expression is “ideologic,” therefore “the ideologic of social reality” (see Petrilli 2004a, b). In global communication, great ideological narratives are in crisis and have been replaced by dominant communication–production ideology (or ideologic). In all societies, power is attained, organized, and reproduced through control over the communication network. But only in the present day and age has the extent to which this is true become clear. Hegemony in the communication–production phase is not only the result of owning capital in the form of property and assets, etc. but is now also largely, if not mostly, connected with control over the communication network as well as with exchange relations at the level of market and production. The ruling class is the class that controls communication.

Transcultural communication involves intercultural and interlingual translation and can only be adequately understood by keeping account of the connection between signs and the “ideologic” of the social reproduction system. The whole system of social reproduction is in communication and, therefore, in signs, verbal and nonverbal signs. Intersemiotic, interlingual, and endolingual translations are a constituent part of social structures and production processes. Communication, ideology, and production systems are interconnected in today’s globalized world more than ever before and inevitably involve cultural interaction among different sign systems accompanied by processes of hybridization, domestication, and contamination among the different “post-” phenomena. To examine ideologic value in

translation across different linguistic and cultural systems, which are intended to enhance global communication functional to the social reproduction cycle, to the market, means to consider communication as a function of production, exchange, and consumption of “signs and bodies” (see Petrilli 2010, pp. 137–158). Transcultural translative processes are structural to global communication and consequently are influenced by its characteristics and functions. “Real politics,” as anticipated, is the only kind of politics recognized by global communication understood as communication–production. This political–ideological dimension of communication is reflected in the function of translation understood as “cultural interaction.” And an important aspect of cultural interaction or inter- or transcultural translation is the relation between the center and the periphery, that is, between target language and culture, on the one hand, and source language and culture, on the other.

Persistence of communication–production, in spite of all posts-, is *persistence of the same social reproduction system* over the planet, with all necessary adjustments for its survival (for example, postapartheid in South Africa). Translation is an important instrument in reaching this target. World planning today is based on the productive character of communication and on the identification of communication with “being” in social reproduction. But this plan is also based on the fact that control over social reproduction can only be achieved through control over communication, and transcultural communication is an important part of the game. Critical reflection on translation processes across languages, cultures, and values must address such issues, especially when the question of establishing the tasks and targets of the work of translation arises. From this point of view, a critique of translation and its functions in the processes of transcultural communication cannot be separated from a critique of the communication–production system and of the reproduction processes of that same system.

As has frequently been the case throughout history, institutions deriving from preceding economic, social, and cultural systems with their stereotypes and ideologies coexist as integral parts of the current society. This also applies to such concepts as “identity” and “difference” and to the social rules and conventions that regulate these concepts. Identity and difference imply transcultural communication together with the risk that interlingual translational processes contribute to the homologation of identities and differences, linguistic and cultural, to their negation, thereby favoring the few, and the survival of not many more.

Obsession with identity, with the “closed self,” is incompatible with such concepts as “social democracy” and “human rights.” As Emmanuel Levinas underlines in an essay originally published in the collective volume, *L’indivisibilité des droits de l’homme* (1985) and subsequently included in his monograph, *Hors sujet* (1987b), human rights are substantially conceived to be the rights of identity and never the rights of the other. The expression “human rights and the rights of the other” is symptomatic of the contradiction between claiming the rights of identity in the name of *human rights*, on the one hand, and claiming the rights of otherness, that is, the rights of the *other*, on the other hand. In *Voyous* (2003), Jacques Derrida underlines the mystifying nature of the expression “democracy” in such descriptions as “the present democracy,” or “our democracy,” commenting that “la démocratie

[est] à venir: il faut que ça donne le temps qu'il n'y a pas." Just as ambiguous is the concept of "freedom" and correlate expressions such as "free enterprise." On Morris's account, the passe-partout word "democracy" has become so ambiguous that in *The Open Self* he had already chosen to avoid it, observing that all sweet words are soured by misuse:

"Democracy" has become a strongly appraisive term, designatively unclear. To call oneself democratic is now as unrevealing, and as inevitable, as for politicians to be photographed with babies. We have been told by one who ought to know that when fascism conquers America it will do so in the name of democracy. In fact, whatever is now done in America—or elsewhere on the earth—will be done in the name of democracy. So we need to talk concretely. None of the grandiose labels we bandy about is of much value today. The actual problems of the contemporary world are not helped by invoking such overworked words as "individualism," "socialism," "capitalism," "liberalism," "communism," "fascism," "democracy." These terms are loaded appraisals. Each culture, and each group, will use them to its own advantage. If we were to use the term "democracy" designatively it would be synonymous with the phrase "open society of open selves." But since we have this more exact phrase, and since no labels are sacred or indispensable, we can dispense with the word "democracy." (Morris 1948, p. 156)

40.8 Signs of Difference

Global communication today is subject to the world market and to general commodification as it characterizes global communication–production society. A distinctive feature of global and world communication today is the tendency, as mentioned above, to level differences and exasperate the processes of homogenization. As an attempt to compensate, homogenization based on the sacrifice of otherness leads to the formation of delusory identities, individualisms, separatisms, and egoisms, individual and collective, complementary to competitiveness, conflict, and mutual exclusion: The obsessive search for identity excludes the other. Consequently, the type of difference required in order to recognize and assert identity in the world of global communication today, in globalization, is *indifferent difference*, that is, difference grounded in the logic of closed identity, indifferent to the other, to other differences (Ponzio 1995d). "Indifferent difference" based on the logic of identity is achieved by sacrificing otherness to varying degrees—one's own otherness as much as the otherness of others.

On the contrary, the essence of the relation with the other, of the logic of otherness, the essence of language is unindifference and responsibility: with Levinas, "friendship and hospitality" (Levinas 1961, p. 305). Interrogation of consciousness and its configuration as a bad conscience, a guilty conscience, subtend the I, configuration of identity. This means to say that the I, one's identity, originates from the accusative, from responsibility without alibis for the other. To be in the first person, myself, "I" means I must answer for my right to be, I must account for myself, that is, for my being in terms of a bad conscience: To be in the first person means to be put into question. To speak, to say "I": This implies justification in regard of the other. Language, sociality, and communication originate from the need to answer

for one's right to be, that is, from one's bad conscience, from unindifference and responsibility toward the other. Identity is a combination of justifications. Unindifference toward the other implies a bad conscience, fear for the other: This fear lurks behind a good conscience and in spite of it—fear for the other comes to the I from the face of the other. The rights of identity originate from the need to justify my “being in the world,” my “place in the sun,” and my home. The rights of identity silence a bad conscience, fear for the other who has already been oppressed or starved by the I, by one's usurpation of a place that might belong to the other (Levinas, “Non-intentional consciousness,” in Levinas 1991).

But today's sign universe as characterized by global communication tends to sacrifice the other, difference based on the logic of otherness, which ends up leading to a sense of frustration among identities and differences. These become ever more obstinate in the will to assert themselves and prevail over other identities and differences, in the will to assert their separation, their identity-difference that has been denied. Consequently, mutual indifference among differences inevitably translates into hostility and conflict toward that which is different, the stranger, the outsider.

In which signs can differences be traced, considering that signs have now entered the global communication network and circulate on the global world market whose vocation is to eliminate difference? Difference based on the logic of otherness, otherness-differences, can only be traced in the past; the present cancels them. In fact, in the present day and age, that which can unite and differentiate and, therefore, identify is a common past: Religion, language, territorial distribution, origin, descendancy, roots, blood, color of the skin, etc. Identity searches for the possibility of asserting itself in that which constitutes difference, identity-difference, whether in the name of some “historical” or “natural” trait: Traditions, customs, monuments, witnesses to a cultural past, language and dialect, religion, and ethnic group. Significantly, churches, museums, ruins, or the historical parts of a city are the only elements that characterize urban space, therefore the only elements of identification. Apart from such signs, urban spaces are anonymous and indistinct with respect to other urban spaces in today's global communication world. Signs of identity are trapped between *indifference* and *mummified difference*. Consequently, what in the past could enter national territory, urban spaces, suburbs, neighborhoods, workplaces, and everyday life can now be kept at a distance at varying degrees of abjection ranging from hatred to so-called tolerance. The connection with identity given by religious, ethnic, linguistic difference, cultural past, etc. is exploited to reclude people for war.

Signs of the *closed community*, of *community identity*, of the “small experience,” to evoke Bakhtin, can be counteracted by signs of the “great experience,” which flourish in ongoing processes of dialogical deferral from one sign to the next. Such processes subtend the *open community* and its signs and are regulated by the logic of unindifferent difference which is difference based on the logic of otherness, “interconnectedness with the other” (Levinas 1987a), planetary interconnection, involvement, and irrevocable responsibility for the other. Rather than closed communities, we must work for communities made of signs that are different, but without the signs of difference indifferent to the other; not signs of difference based on the

logic of closed identity, but signs of difference based on the logic of otherness, that open to the other without limitations as imposed by the logic of identity, without the limits of property, territory, ownership, without inequality, without roots, outside identity, and belonging. This is what the prefix *post-* should really mean.

Each one of us is connected to every other according to the logic of otherness which is the condition for recognizing singularity and uniqueness as essential characteristics of the properly human—but this does not imply the monadic separatism of Max Stirner’s conception of the unique individual. Otherness thus described cannot be reduced to the logic of identity, whether of the individual or the collectivity, it cannot be reduced to difference connected to a general category of any sort. The condition of otherness implies the condition of mutual estrangement, *étrangeté*, extraneity, and extralocality which we share with each other and on the basis of which each one of us is interconnected with every other, in a relation of unindifference toward the other. No form of difference grounded in the logic of closed identity with its identity interests can cancel the essential condition of mutual *étrangeté*. But the logic of identity and identity interests are indifferent to the difference of individuals viewed in their singularity, as much as to other identity differences, to the point of overpowering and even repressing them. In fact, another typical form of destruction characteristic of global communication today regards the signs of difference, signs based on the logic of otherness, absolute otherness, which are becoming ever more obsolete.

40.9 Global Communication and Subjectivity: The Critical Task of Semioethics

To understand communication today in its historical–social specificity as a global and worldwide phenomenon and in its relation to life over the whole planet (remembering that life and communication, life and semiosis coincide), semiotics must adopt a “planetary” perspective in both a spatial and temporal sense. Such an approach affords the critical distancing necessary for an interpretation of contemporaneity that is not restricted to the limits of contemporaneity itself.

The global and detotalizing approach to the signs of life and to the life of signs is connected with the logic of otherness and requires a high degree of availability toward the other, a disposition to listen to the other, a capacity for hospitality, and for opening to the other in both quantitative and qualitative terms. Semiotic interpretation cannot disregard the dialogic relation with the other. Following Mikhail M. Bakhtin, it is now clear that dialogism understood as intercorporeity is a fundamental condition for life and semiosis and must be addressed by an approach to semiotics which is oriented globally and is at once open to the local. This approach privileges the tendency to detotalization on the basis of the logic of otherness, rather than totalization and sacrifice of difference according to the logic of identity, that is, closed identity.

With the spread of “bio-power” (Michel Foucault) and the controlled insertion of bodies into the production system, global communication has conceptualized the individual as a separate and self-sufficient being. The body is perceived as an isolated biological entity belonging to the individual. This has led to the quasi-total extinction of cultural practices and worldviews based on intercorporeity, interdependency, exposition, and opening to the other. What we are left with are mummified remains studied by folklore analysts, archeological residues preserved in ethnological museums and in national literatures—an expression of the general condition of museumification.

Instead, Bakhtin analyzes perception of the body in medieval popular culture, therefore the different forms of what he calls “grotesque realism” (see Bakhtin 1963, 1965). According to his approach, the body is not conceived in individualistic terms, separately from other life forms on earth—indeed from the rest of the world. Signs of the grotesque body (of which only weak traces have survived in the present day and age) include masks—for example, those used in rituals, popular festivities, and carnival. Before the development of individualism, with the rise of the bourgeoisie, grotesque realism presented the body as undefined, that is, not confined to itself, but, on the contrary, as flourishing in relations of symbiosis with other bodies, relations of transformation and renewal that transcend the limits of individual life. The rise of the bourgeoisie is associated with egotistic individualism, shortsighted self-interest, and a private, static conception of the body. Paradoxically, however, far from weakening this conception, global communication understood as “global communication–production” contributes to its reinforcement.

As Michel Foucault (1926–1984) in particular has revealed (but Rossi-Landi’s critique of the 1970s also deserves attention), division and separatism among the sciences serve the ideologico-social requirements of the “new canon of the individualized body” (Bakhtin), which, in turn, serves the controlled insertion of bodies into the social reproduction cycle, that is, today’s global communication–production system.

Emmanuel Levinas evidences the creative power of otherness with respect to the totality, illustrating how the logic of otherness obliges the totality to reorganize itself ever anew in a process related to “infinity.” This process can also be related to the concept of infinite semiosis (or sign activity) as described by Charles Sanders Peirce (*Collected Papers*, 1931–1966; see also Peirce 1992). Implying more than a cognitive issue, the relation to infinity transcends the cognitive order and denotes the original condition of involvement and co-implication with the other, of responsibility toward the other, beyond the established order, the symbolic order, convention and habit, and beyond the alibis they provide for the sake of keeping a clean conscience. The relation to infinity is the relation to *absolute otherness*, therefore a relation to that most refractory to the totality. The relation to infinity implies a relation to the otherness of others, to the otherness of the other person, *autrui*. The other is not understood here in the sense of another self like one’s own self, another *alter ego*, another self belonging to the *same community*, but rather as the alien other structural to identity, the other in its extraneousness, strangeness, diversity,

and difference toward which indifference is impossible in spite of all efforts made by identity to the contrary, by self.

The critical task of semioethics implies recognition of the common condition of *dialogical interrelation* and the capacity for *listening*, where dialogue does not imply a relation we choose to concede thanks to a sense of generosity toward the other, but on the contrary is no less than structural to life itself, a necessary condition for life to flourish, an inevitable imposition. With specific reference to anthroposemiosis, semioethics focuses on the concrete singularity of the human individual and the inevitability of intercorporeal interconnection with others. The singularity, uniqueness of each one of us implies otherness and dialogism. Semioethics assumes that whatever the object of study and however specialized the analysis, human individuals in their concrete singularity cannot ignore the inevitable condition of involvement in the destiny of others, that is, involvement without alibis. From this point of view, the symptoms studied from a semioethical perspective are not only specified in their singularity, on the basis of a unique relationship with the other, the world, the self, but are also and above all social symptoms. Any idea, wish, sentiment, value, interest, need, evil, or good examined by semioethics as a symptom is expressed in the word, the unique word, the embodied word, in the voice which arises in the dialectic and dialogical interrelation between singularity and sociality.

An adequate and comprehensive understanding of global communication today requires a full understanding of the risks that communication involves, including the risk of destroying communication itself, the risk that communication itself may come to an end. The risk alluded to is not just the relatively trivial phenomenon known as “incommunicability,” amply thematized and represented in film and literary discourse during the 1960s. This expression alludes to the condition of social and linguistic alienation suffered by the single individual with the transition to the global communication system through to its current phase of development (the “communication–production” phase).

Unlike all other previous phases in social development, today’s communication–production phase is endowed with an unprecedented potential for destruction. In light of today’s enormous potential for destruction (which has never before reached such high degrees in earlier phases of development), the risk of destroying communication, the risk that communication may come to an end, is nothing less than the risk that life on this planet may come to an end. In other words, far from reducing the communication phenomenon to the terms foreseen by the “equal exchange model” described above (emitter, receiver, message transmission, etc.), the global approach to semiosis equates communication with life itself. In fact, from a biosemiotic and global semiotic perspective, semiosis and life, communication and life converge (see Petrilli 2012, Chap. 4). In this statement, therefore, the expression “communication” is not reduced to the equal exchange or “postal package” model, but rather is equated to life. And according to this description, that communication (+ modeling = *semiosis*) and life converge implies that the end of communication is the end of life.

To maintain today’s communication–production system is to maintain a communication–production system that is destructive. To reproduce the reproduction cycle

is to reproduce the logic of destruction: Machinery is replaced with new machinery not because of wear, but for competition; employment develops into unemployment as a consequence of automation; products circulate on the market and stimulate exasperated forms of consumerism which serve to continue the reproductive cycle; innovation quickly renders products outdated, that would otherwise exhaust the demand; commodities and markets that do not adequately meet standards of competitiveness are made to disappear (see Ponzio 1990b).

Communication–production is communication for the sake of communication, production for the sake of production to the detriment of the capacity for creative invention and reorganization, to the detriment of the right to difference and otherness. The obsessive reproduction of communication–production cycles tends to undermine the human intellectual faculties, the inventive capacity. But human beings are not only threatened as intelligent beings, they are also threatened simply as living beings. In other words, the health of semiosis, the quality of life, is constantly under threat. To maintain, reinforce, and expand today’s socioeconomic system at all costs means to endanger life on the planet: From this point of view, symptoms of dysfunctioning include the ozone hole, ecological disasters caused by standard reproduction cycles, and disasters of the catastrophic order. “Normal” or standard disasters include the communication–production of war and correlated side effects. From a semiotic perspective, even interlingual translation may become a device that favors catastrophe when it puts itself at the service of belligerency, and translates the language of war, its ideology and argumentations, its rhetoric and justifications across different languages and cultures worldwide (see Petrilli 2005, 2014b, 2015b).

The *conatus essendi* of communication–production destroys natural environments and life forms. It destroys differences among economic systems along with differences among cultural and political systems. Consider the present-day trend to export and globalize so-called “democracy,” a concept that needs questioning as says the American semiotician Charles Morris in his book of 1948, *The Open Self*. Processes of homogenization regulated by capital market logic tend to eliminate difference to the point even of homogenizing desire and the imaginary across different cultures and value systems, and not just habits of behavior or “needs” (though the possibility of satisfying such needs is never the same). The *conatus essendi* of communication–production destroys traditions and cultural patrimonies that somehow contradict, or obstacle, or simply do not respond to the logic of development, productivity, and competition. The communication–production system destroys productive forces that tend to escape the limits of present-day forms of production, that is, the forces of intelligence, inventiveness, and creativity which are otherwise subject to market trends and capital logic.

The destructive character of today’s reproduction system is evidenced by the fact that underdevelopment is a product of development, indeed is a condition of development. In the global capitalist system, which thrives on the dynamics between center and periphery, the condition of dispossession and pauperization is at once both a direct consequence of and a condition for affluence and accumulation. Exploitation, discontent, and misery to the point of nonsurvival are on the increase worldwide. A glaring symptom is the spreading phenomenon of migration which

so-called “developed” countries are no longer able to contain. When national borders are closed, political and ideological issues are no doubt at play, but objective limits on the availability of space and resources are also a problem—more so these days than in earlier phases in the development of social reproduction systems.

To globalize the market is destructive because it implies the will to commodify anything, including interpersonal relations. The more commodities are illegal the more they are valuable and produce profit—signs of this phenomenon include illicit traffic in arms, drugs, sex, human organs, women, children, uteruses, etc. The principle of exploiting other people’s labor is destructive. The less labor costs, the more it produces profit: Aided by the global communication network, “developed” countries turn ever more to low-cost labor in “underdeveloped” countries: “Stay where you are, and we will bring work to you.” The increase in child labor exploited for tasks that are heavy and dangerous is clear evidence of this infamy, of the disgrace of the communication–production world: Much needs to be said and done about children as today’s victims of pauperization and misery—children in illness, children exploited on the streets, children circulating on the global market.

Global communication–production is destructive because it is the communication–production of war. And war is in continuous need of new markets for the consumption and production of weapons, conventional and unconventional. Moreover, real politics is the approach adopted to politics in global communication and is viewed as the only appropriate approach to the being of communication–production (but only politics that is realistic counts as politics!). Realism in politics accepts the *extrema ratio* of war as dictated by the strict law of the force of things. Western humanism, ontology, and reason, all acknowledge the realism of war, the necessity of war, which is considered as an extreme logical consequence of reality, as part of reality. The logic of war is the realistic logic of being, ontology, politics, and history. The face of being that manifests itself in war is the face of Western reason. Reason is based on the logic of identity, and, in the name of identity, is prepared to sacrifice the other.

Communication–production is connected to politics and social planning, it projects a vision of the world: A totalizing and functional system regulated by the strategies of productivity, efficiency, competitiveness, and conceived as a space for the satisfaction of needs—that is, of course, the needs of the affluent. The “communication–production” or “global communication” world guarantees the world as it is, its *conatus essendi*, ontological being, the individual and collective subject, economy of the durable, and persistence in *being* at all costs. Even at the cost of war, the *extrema ratio* of war which is considered as an expression of the world, as part of the world, of its realistic logic, foreseen by ontology, by its *conatus essendi*. This description of the world is conditioned by the logic of identity, that is, closed identity. In this framework, war is a means for exploiting the other and for maintaining, reinforcing, and reproducing the logic of the same. The world is ready to sacrifice the other. The interconnection between world, reality, identity, history, truth, force, reason, power, productivity, politics, and war is inscribed in Western culture and has always been exploited by capitalism, today, more than ever before with communication at the service of social reproduction. The communication–production

of war demands its constant recognition and approval as “just and necessary”—a necessary means of defense from the menacing other, a means of obtaining respect for the rights of individual identity, for individual difference. But the truth is that it is *not* the other that threatens or destroys identity and difference. Paradoxically, today’s social reproduction system itself is destructive. While social policy promotes the logic of identity and difference, these in fact are becoming ever more fictitious and phantasmal. This leads to a condition of obsessive attachment to the signs of identity, that is, closed identity, in a cycle that creates further potential for the communication–production of war (Catone and Ponzio 2005; Ponzio 2009).

40.10 More Social Symptoms of Globalization: Migration and Unemployment

In the face of the anachronistic tendency to close borders and defend territory in the name of identity, an opposite phenomenon is also emerging, that of “deterritorialization.” Migratory fluxes are sweeping across the globe and cannot be contained in spite of rules and regulations. In globalization, migration is a worldwide and altogether different phenomenon from migratory fluxes as they took place, for example, after World War II; migration today no longer converges with the traditional emigration/immigration phenomenon, historically so important for countries like Australia, the USA, and Canada. The difference is both quantitative and qualitative. Migratory fluxes today involve enormous masses of people shifting in numbers that go out of control. Moreover, the impact on territory is different from the past and consequently the difficulties involved in coping are different. To understand the new face of migration today, we must keep account of the current socioeconomic context in which it is staged, that of capitalist globalization. People migrate toward different countries across the world at different levels of capitalist development, with different environmental and demographic conditions, territorial expanse, space availability, etc. All the same, migration today is part of the same scenario, that of globalization—a phenomenon that is extraordinarily complex, vast, and difficult to treat comprehensively. The migration phenomenon involves a situation of exposition and opening to the other and however unwanted the other might be, the only acceptable response is hospitality.

That globalized migration cannot be reduced to the traditional emigration/immigration phenomenon means that it cannot be considered in terms of labor force shifting from one area of the world to another, from one country to another. From this point of view, the capitalist production system in the globalization phase does not have control over migration as in the past. Whether or not migrants can be transformed and reduced to the status of labor force depends on such factors as level of socioeconomic development of the host country, availability of resources, and the political system. But migration is most often perceived as a threat to “lifestyle.” This threat does not emerge in the terms of a violent struggle against the capitalist system, but as a request from the masses for hospitality, a request that is generally

perceived as inordinate, immoderate, and excessive. As such, this request for hospitality is an accusation against identity, community identity, for not satisfying it, for not even acknowledging it. In such a context fear of the other understood in the transitive sense of fearing the other is exasperated to paroxysmal degrees and translates into the need to defend identity (Petrilli 2010, pp. 212–217). However, fear is not the starting point in the constitution of identity, Hobbes “*Homo homini lupus*,” but rather the point of arrival, a consequence of social practices based on exclusion and sacrifice of the other (Ponzio 2007).

The problem of migration today and the possibility of converting migration into emigration/immigration are expressions of the same problem, of the same capitalist reproduction system. Differently from traditional emigration/immigration, migration does not involve people shifting away from remote areas of the world unaffected by the processes of capitalist development. Unlike emigration/immigration, globalized migration is not about people shifting from one socioeconomic system to another—the capitalist in its extreme phase of development. On the contrary, the causes of migration today—backwardness, pauperization, scarce resources, unsustainable life conditions, etc.—as much as the goals, values, and fantasies of migrants are all part of the same social reproduction system, late capitalism in the globalization phase. Migration is a product of the same socioeconomic system that should absorb it, and not just a passing trend, a cyclical crisis. Paradoxically, migration (similarly to unemployment) is structural to globalization and global communication—a new phase in history which more than ever before is planetary history. The problems that migration presents to the capitalist system are the same all over the globe, what varies does not concern the capitalist system in itself but external factors such as those mentioned—demographic density, territorial extension, natural resources, the capacity for building a multicultural and multiethnic society, etc.

To recapitulate: Migration is a phenomenon that global communication produces and obstacles at the same time. In other words, migration is part of the global communication system, but it is also an obstacle to global communication, a product that the global communication system is unable to absorb: Late capitalist globalized social reproduction is unable to absorb the phenomenon it produces. Migration involves masses of people that shift across the globe and cannot be transformed into merchandise and incorporated into the social reproduction cycle. The free circulation of potential migrants is constantly impeded—the “free labor market” and communication circuits shut down in the face of migration. Therefore, while the general tendency in global communication is to open frontiers and favor the circulation of commodities, migrants are excluded from these circuits (apart from that minimal part that can be transformed into the traditional emigration/immigration phenomenon). In global communication, migration does not converge with the circulation of labor force—migrants cannot be reduced to the status of workers and instead quickly become unwanted residues produced by the capitalist system. As such, they contradict the labor market and obstacle its configuration as a worldwide and universal market.

Given that migrants cannot be absorbed by the labor market, they remain individuals in their singularity and uniqueness in spite of themselves, uncommensurable

in terms of the abstract category of labor in general. In globalization, migration evidences the fact that the category of labor in general cannot be extended unlimitedly, that people can no longer be transformed into abstract individuals on the basis of the category of labor force, not even as labor force unable to sell itself on the market. The upshot is that these single unique individuals cannot be legally admitted to the “developed countries” toward which they are headed from the “underdeveloped” areas of the world: Consequently, the right to labor becomes a request for hospitality (Petrilli 2005b; Petrilli and Ponzio 2006, 2007, and “Bodies, Signs, and Values in Global Communication,” in Petrilli 2008a, pp. 113–141).

In terms of official discourse, this situation is reflected in language that distinguishes between the person who belongs to a given community, the regular “citizen,” and the person who does not, the unwanted migrant. The latter is variously designated with racist stereotypes of the ethnic, cultural, or religious order, etc. These include such expressions as “alien,” “illegal,” “asylum seeker,” “extracommunitarian,” “sans papier,” and “queue jumper.”

While the unemployed person is the labor force that no longer sells on the market, the migrant is not even that. Migrants cannot be qualified in terms of the general category of labor, consequently they cannot even be considered as abstractions relatively to the “search for work, for generic work.” And yet, though they are different phenomena, unemployment (which similarly to migration is growing) and migration tend to converge in the sense that both present residues produced by the global social reproduction system. Progress in technology and automation produces unemployment. This implies that similarly to migration, and far from being a passing contingency, unemployment is structural to the capitalist production system in its advanced phase of development. Automation puts the unemployed in the condition of nonlabor, of excess with respect to the labor market. Like the migrant and in spite of himself, the unemployed person too represents the absolute other with respect to identity logic in the late capitalist social reproduction system.

From this point of view, both migrants and the unemployed are what we propose to call “extracommunitarians”; both testify to the need for nonidentity communities, for communities founded on the logic of absolute otherness. However, despite these similarities, a basic difference distinguishes them: The unemployed are perceived as belonging to the community, migrants are not. The difference is established by the system and belongs to a sphere (“economics,” “reality,” “being”) that resists any claims to “the rights of man” (“equality,” “liberty,” “fraternity”). This difference is striking when expressed in racist terms no less than by the unemployed person against the migrant. Homologation is associated with the idea of equivalence and commensurability and is inherent to the logic of “equal exchange,” the condition for abstraction—but this process finds an obstacle in migration and unemployment. Recent opinion polls in Italy reveal that a high percentage of Italians are favorable to resorting to the armed forces to guarantee security and control over frontiers, therefore over illegal migratory fluxes, thereby indicating a widespread situation of fear of the other. Xenophobia is increasing in Europe as over the globe generally. But fear of the alien is only one aspect of fear of the other. In reality, the object of fear is not the foreigner *tout court*, but the foreigner alien to the identity of a given com-

munity—whether the sociocultural, religious, political, or economic community. “Extracommunitarian” is the expression introduced by the European community for this type of alien and is an expression that can be generalized.

40.11 “The Open Society of Open Selves”

In his book *The Open Self*, Charles Morris recognizes a uniting factor that subtends difference, diversity, multiplicity, and many-sidedness in human beings, what he identifies as “creativity” which may be related to Sebeok’s conception of the human primary modeling device. Human modeling is syntactical and as such is endowed with a capacity for metasemiosis and creativity, for reflection, a capacity to suspend immediate action and deliberate, to interrogate and take a stand, to recognize the possibility of otherness, that is, absolute otherness beyond mere alternatives. As human animals, we are not only semiosical animals but also syntactical, metasemiosical animals. And evoking Peirce, we are not only rational animals but also reasonable animals (Ponzio and Petrilli 2008a; Petrilli 2014a, b).

Human animals are capable of orientations and projects structured according to the logic of otherness and evolutionary love (agapasm) dialectically interrelated with the logic of continuity or synechism. But the continuum of existence is the fragmented time–space of the multiple, a universe of the many. The single, unique individual contains the multiplicity; it proceeds from the multiple, from difference, the other, and contains within itself the infinite of a fractioned and discrete continuum to which it contributes with its own creativity and in which it is determined in its singularity and responsible freedom.

Many open selves united around the common ideal of “the open society of open selves” can enhance one’s own uniqueness as much as the uniqueness of others. The unique self is an open self, as Morris says referring to society in the USA, but in reality to the whole of humanity:

The alternative to a paralyzed stalemated America and to a Romanized imperialistic America is an America rededicated to its traditional ideal of an open society of open selves and resolutely at work to reduce the anxieties which if unrelieved tend to the closed society. That, and that alone is our way out. (Morris 1948, p. 168)

Communication in the present day and age is characterized in terms of globalization, but the paradox of globalized communication in today’s social system, the capitalist in its extreme phase of development, is the inadequacy of communication and dialogue, of relations among bodies, therefore the lack of intercorporeity, as described by Bakhtin, which instead is no less than a necessary condition for listening and hospitality toward the other, for the health of semiosis. Thus described, the communication system itself risks provoking the end of communication, which as anticipated above also implies the end of life on the planet Earth.

In fact, in the light of what we have said so far, we can now make the claim that, understood as semioethics, semiotics must account for the “reason of things.” How-

ever, the capacity for detotalization as the condition for critical and dialogic totalization implies that the *reason* of things cannot be separated from *reasonableness*. Therefore, if the health of semiosis, of life and human relationships, is a concern, the problem may be summed up as follows: Considering today's global communication–production system and the risks it entails for semiosis, indeed for life generally, the *human being needs to change at the very earliest from a rational animal into a reasonable animal* (Petrilli 1998a, p. 151; and 2014b, pp. 238–241).

40.12 Listening, Hospitality, and Restitution

In spite of good intentions such expressions as “intercultural” and “multicultural” no less than “hybridization,” “contamination,” “postcapitalism,” “postcolonialism,” “postapartheid” all remain anchored to the logic of identity and belonging. The sign of power and control persist which means that social practices of exclusion, more or less subtle, more or less manifest, also continue to persevere. When critical consciousness is inadequate, the expressions above resound as mystifications not only in the language of everyday life but also in intellectual language, in the language of the sciences. The truth is that relations among cultural identities in the globalized world have become so tense that they easily degenerate into relations of mutual violence, even destruction. This is all the more reason why the sign sciences today need to develop a trans-semiotic perspective capable of appreciating the complexity of a semiosphere originally regulated by the logic of dialogism and otherness. With special reference to the cultural semiosphere, this means to address the question of difference among signs that are not indifferent to each other, but that instead relate to each other on the basis of the logic of listening and hospitality (Petrilli and Ponzio 2006).

Language and communication in the human world find their condition of possibility in the logic of otherness. This is to say that they subsist and develop in the relation with the other, where the other is understood as an end in itself, in its uniqueness, outside the logic of identity and social roles, outside the logic of national, ethnic, cultural difference, and so forth. The I–other relation is a face-to-face relation (Levinas), a relation among singularities, between one single unique individual and another. This relation rejects all forms of exclusion of the other, all forms of violence. It is presupposed by all forms of communication and representation, by all forms of objectification and nomination of the other. In this relation, the self is responsible toward the other in an absolute sense, which means to say without alibi (Bakhtin 1990, 1993), without the possibility of evasion: The self must respond to the other and for the other. All forms of communication presuppose hospitality toward the interlocutor.

The word, whether written or oral, is addressed to the other, to the otherness of the other which is contextualized in the face-to-face relation and as such can neither be represented nor thematized. Listening to the other transcends space and time as these pertain to the world, to the world as it is, to the world of labor and labor time,

all of which pertain to war. In the economy of world logic thus described, peace is no more than momentary repose necessary to gather up strength and continue war, just as free time and the night serve the day (Maurice Blanchot). Contrary to labor time (that is, paid labor time) and free time which are based on the logic of equal exchange, (the time of) listening belongs to the order of gift logic (Vaughan 2007, 2015). That is to say, listening and listening-related practices involve a gift of time to the other. And from the perspective of the properly human, the otherness relationship, time for the other represents the real social wealth.

In such a framework, transcultural communication can be conceived as communication for others, reconstruction with others, and restitution to others of difference that is unindifferent to the difference of others. Transcultural communication, that is, translation across cultures and languages can contribute to the condition of planetary interconnection without closed communities, without the signs of closed identities, which is what *post-* should really mean. Transculturalism, translanguistics, transgender, transemiosis, etc., are all expressions that contribute to delineating an ideological perspective that is open to the otherness of the other, to encounter among languages and cultures beyond the logic of identity and belonging, beyond stereotypes and mystifications, in the dynamics between continuity and discontinuity, stability and uncertainty, and opening and resistance as characterizes signs in transit.

Storytelling is a form of communication—whether through verbal signs (oral or written) or nonverbal signs—that can be traced across the globe historically, a communicative practice based on listening and hospitality involving relations among singularities, the each of every one of us from different cultures and languages worldwide. Instead, global communication, as it is understood today in globalization, characteristically involves forms of interconnection that are altogether different and by comparison relatively recent. “Global communication” is subject to the world market and to the processes of general commodification that characterize it and as such it is structural to globalization, to what we have designated as “communication–production” society (see Petrilli and Ponzio 2005, pp. 518–523; and Petrilli 2012a, Chaps. 1 and 2). A distinctive feature of global communication–production is homologation, the tendency to level differences, which, however, ultimately leads to exasperating identities, individualisms, and separatisms of both the individual and community orders, and to reinforcing the mechanisms of competitiveness, conflict, and mutual exclusion. The paroxysmic search for identity or difference results in sacrificing the other. Difference functional to self-assertion, that demands recognition, is difference indifferent to other differences, to other identities. The condition of indifferent difference is achieved by repressing and sacrificing otherness in its various forms and to varying degrees—internal otherness and external otherness.

Instead, far from denying differences, storytelling exalts and interconnects them on the basis of the logic of mutual hospitality. Not only does storytelling favor encounter, listening, and mutual understanding among different peoples but it also flourishes on encounter, listening, and understanding. Storytelling consists of sharing and creating dialogic relations among differences across different lan-

guages, cultures and discourse genres, relations regulated by the logic of otherness, by the practice of hospitality, interest and care for the other as other, and therefore by the logic of restitution. As testified by a common world patrimony of stories, legends, tales, fables, myths, parables, sayings, proverbs, etc., storytelling throughout the centuries has acted as a common heritage and kind of connective tissue favoring the circulation of common themes, subjects, values, and discourse genres, and forming a web uniting different peoples across the world. In contemporary society, communication is mostly oriented to a pathological degree by self-interest, that is, by the logic of personal advantage, profit, and gain. Instead, in storytelling, communication is oriented by the *interesting*, where that which counts is one's relation to the other, one's interest in the other per se.

The practice of narrativity is manifest in different types of discourse genres, including the novel, which is the most representative literary genre of our day. It is also manifest in the different kinds of media, from writing to orality, for example, in filmic discourse. The common characteristic of storytelling is that it is an end in itself, uniquely animated by the pleasure of invoking the other, of involving the other, and of listening to the other. As such, storytelling is distinct from the type of narrativity that serves power: The power to control and punish (stories narrated before a judge or police officer), the power to inform (newspaper chronicles), the power to heal (a medical case history that the physician draws from the patient, the story recounted by a patient during a psychoanalytical session), the power to redeem and save (confession, a discipline of the Roman church), the power to record and establish the sense of history (as reconstructed by the historian), and so forth. But the practice of storytelling suspends the order of discourse which, instead, global communication is programmed to serve. As such, storytelling offers spaces that interrupt the communication–production flow and allow for reflection, critical rethinking, dialogue, encounter, and hospitality. For this very reason, storytelling is more or less suspect, more or less subversive with respect to the order of discourse.

Recalling the term “orature” introduced by Claude Hagège (Hagège 1985), with coauthor Augusto Ponzio, we have coined the term “oraliture” by analogy with “écriture” (writing) to designate orality, or the oral style of discourse, and confer validity upon it as a vehicle of knowledge and experience, similarly to writing. “Orature” is used to indicate the elements of orality in novelistic discourse (cf. Paré 1997), whereas the term “oraliture” is preferred to “orature” by Ponzio and myself for reference to the different genres of literature—short stories, legends, proverbs, rhymes, songs, etc.—that present orality, but in the form of writing, that is, translated into written genres and more or less complex literary expression. The term “oraliture” is not only intended to evidence the fact that orality becomes writing insofar as it is transcribed or finds expression in the different forms of literary writing but also that orality in itself is already writing, according to different forms of non-written literature, writing *avant la lettre*. No less than written literature and beyond its communicative function, “oraliture” is a modeling device—in other words, it models worldview and is endowed with a capacity for creativity, innovation, and inventiveness, for “the play of musement,” to use an expression introduced by Peirce.

40.13 From Reason to Reasonableness

Following Peirce, but also authors like Ferruccio Rossi-Landi from the perspective of human social semiotics (or anthroposociosemiotics), our gaze on human sign behavior must embrace the fields of ethics, aesthetics, and ideology. Thus equipped, the logico-cognitive boundaries of semiotic processes are extended to contemplate problems of an axiological order. This approach focuses on the human capacity for values, critique, and responsibility in the direction of semioethics, or with Victoria Welby “significs” (see Petrilli 1998b, 2015a). Welby privileged the term “significs” for her theory of sign and meaning to underline the scope of her approach and focus on the question of “significance,” that is, on the relation of signs to values, similarly to Charles Morris after her, therefore on the axiological dimension of meaning. The term “significs” designates the disposition for evaluation, calling attention to the problem of value and signifying pertinence, to the significance of signifying processes, to their sense for humanity, for each and every one of us.

Peirce’s semiotics describes semiosis in terms of its potential for deferral and *renvoi* among interpretants, whether endosemiosically across interpretants forming the same sign system, or intersemiosically across different types of sign systems. According to Peirce’s approach, the sign is never static or circumscribed to the limits of a single signifying system. On the contrary, to subsist as a sign, the sign must be continuously interpreted by another sign, its interpretant whether from the same sign system or a different one. The sign is characterized by its capacity for displacement and deferral, for shift across sign systems, engendering what we may also designate as the “flight of interpretants,” “infinite semiosis.” This movement results in enhancing significance as semiotic spheres expand and pulsate ever more with sense and meaning. Continuous displacement indicates that otherness is a condition for the sign’s identity, as paradoxical as this may seem. The question of otherness also leads back to the problem of the “limits of interpretation” (Eco 1990). With regard to this point, it is important to observe that “semiotic materiality” or “otherness” of the “interpreted sign” with respect to the “interpretant sign” is an obstacle to arbitrariness. Furthermore, the threat of relativism or dogmatism in interpretive practice is also averted thanks to the strategies of dialogic confrontation among signs oriented by the logic of otherness (see Petrilli and Ponzio 2008a).

Otherness and dialogue are in the sign, in the relation between the interpreted and the interpretant structural to the sign, including the subject considered as sign, and constitute the condition for the continuity of sign activity. Otherness and dialogism are in the self, that is to say they are constitutive of subjectivity in the semiotic processes of its actualization. Subjectivity emerges as a continuous, ongoing responsive process that implies the relation of otherness both internally and externally with respect to the process itself of its actualization as a subject, as a self. In other words, the otherness relation is a dialogic relation and implies interpretation in regard to the internal other (or others) of self, as much as the external other (or others). Nor are there interruptions or natural barriers between the responsive behavior of self, on one hand, and other selves beyond one’s own self, on the other.

In line with his pragmatism or “pragmaticism,” as he preferred in a subsequent phase of his research, Peirce developed his cognitive semiotics in close connection with the study of human social behavior and human interests globally. In this framework, the problem of knowledge necessarily presupposed problems of an axiological order. Peirce introduced the concept of “reasonableness” for inferential processes understood as open-ended dialectic–dialogic signifying processes, oriented by the logic of otherness, operative in the development of thought unbiased by prejudice, in unfinalizable sign processes regulated by the principle of continuity or synechism. In fact, the dialogic conception of signs and otherness forms a necessary condition for Peirce’s doctrine of continuity or synechism, the principle that “all that exists is continuous” in the development of the universe in its globality and of the human subjects that inhabit it (see *CP* 1.172).

The dialogic relation between self and other—the other from self and the other of self—emerges as one of the most important conditions for the growth of reasonableness and continuity in the creative process, in creative argumentation. A driving force within this creative process is love, that is, *agape*. According to Peirce, the most advanced developments in reason and knowledge are based on the creative power of reasonableness and the transformational suasions of *agape* (see Peirce 1923). Love, as Levinas teaches us, is unindifference toward the other, an original precategory condition that precedes the development of cognition and consciousness.

Peirce transcended the limits of theoreticism in semiotics working in a direction that could be described as pragmatic–ethic or operative–valuative, semioethic in our own terminology, signifi- cal in Welby’s. During the last decade of their lives, Welby and Peirce, in fact, corresponded intensely, discussing and modeling their ideas in constant “dialogue” with each other, mutually influencing each other’s work. In the final phase of his research, Peirce significantly turned his attention to the normative sciences. He linked logic to both ethics and aesthetics: While logic is the normative science concerned with self-controlled thought, ethics focuses on self-controlled conduct, and aesthetics ascertains the end most worthy of our espousal. Peirce addressed the question of the ultimate good, the *summum bonum*, or ultimate value which he neither identified in individual pleasure (hedonism) nor in a societal good, such as the greatest happiness for the greatest number of human beings (English utilitarianism), but in the “evolutionary process,” that is, a process of growth, and specifically in the continuous “development of concrete reasonableness”:

Almost everybody will now agree that the ultimate good lies in the evolutionary process in some way. If so, it is not in individual reactions in their segregation, but in something general or continuous. Synechism is founded on the notion that the coalescence, the becoming continuous, the becoming governed by laws, the becoming instinct with general ideas, are but phases of one and the same process of the growth of reasonableness. This is first shown to be true with mathematical exactitude in the field of logic, and is thence inferred to hold good metaphysically. It is not opposed to pragmatism in the manner in which C. S. Peirce applied it, but includes that procedure as a step. (*CP* 5.4)

The most advanced developments in reason and knowledge are achieved through the creative power of reasonableness and are fired by the power of love, *agapasm*:

“the impulse projecting creations into independency and drawing them into harmony” (*CP* 6.288). Peirce developed his concept of evolution keeping account of the Gospel of St. John (whose evolutionary philosophy predicates that growth comes from love) and the theosophy of Emanuel Swedenborg (1688–1772). In this framework, human semiosis is enhanced by the power of love understood as orientation toward the other, opening toward the other, response to attraction exerted by the other, in the relation of unindifference, and care for the other. Reasonableness is endowed with the power of transforming one’s horror of the stranger, the alien, one’s fear of the other understood as the fear one experiences of the other foreign to self, into sympathy for the other. Recalling his essay of 1892, “The Law of Mind,” Peirce, in fact, claims that the type of evolution foreseen by synechism is evolution through the agency of love where reason becomes reasonableness and the hateful becomes lovable:

Everybody can see that the statement of St. John is the formula of an evolutionary philosophy, which teaches that growth comes only from love, from I will not say self-*sacrifice*, but from the ardent impulse to fulfill another’s highest impulse. [...] It is not dealing out cold justice to the circle of my ideas that I can make them grow, but by cherishing and tending them as I would the flowers in my garden. The philosophy we draw from John’s gospel is that this is the way mind develops; and as for the cosmos, only so far as it yet is mind, and so has life, is it capable of further evolution. Love, recognizing germs of loveliness in the hateful, gradually warms it into life, and makes it lovely. That is the sort of evolution which every careful student of my essay “The Law of Mind” must see that *synechism* calls for. (*CP* 6.289)

Love is directed to the concrete and not to abstractions, it is directed to persons, one’s neighbor not necessarily in a spatial sense, locally, as anticipated above, but in the sense of affinity, a person “we live near [...] in life and feeling”: Love is a driving force where iconicity, abduction, and dialogism are operative at high degrees. Moreover, on Peirce’s account, love should not be understood in terms of sacrifice, whether to self or to the egoistic impulses of others, but as the capacity to respond to the other, creatively and with generosity—“the ardent impulse to fulfill another’s highest impulse,” as he says in the citation above.

With polemical overtones, Peirce contrasts the “Gospel of Christ” which has the capacity for progress depend on a relation of sympathy among neighbors, to the “Gospel of greed” which he believes reflects the dominant trend of his time and has progress depend on assertion of one’s individuality or egotistic identity over the other, at the other’s expense:

The Gospel of Christ says that progress comes from every individual merging his individuality in sympathy with his neighbors. On the other side, the conviction of the nineteenth century is that progress takes place by virtue of every individual’s striving for himself with all his might and trampling his neighbor under foot whenever he gets a chance to do so. This may accurately be called the Gospel of Greed. (*CP* 6.294)

Peirce’s critique of arrogant individuality and self-centeredness parallels Welby’s theory of subjectivity when she thematizes the distinction between *I* and *Self*, critiquing the self’s tendency to transform “selfness” into “selfishness” or “selfism” (Petrilli 2009, Chap. 6; Petrilli and Ponzio 2005, Chap. 2). In Peirce’s interpretation,

Charles Darwin (1809–1882), author of *The Origin of Species* (1859), grounds the principles of natural selection, the survival of the fittest, and the struggle for existence in a concept of individual which he derives from nineteenth-century political economy and applies to evolutionary theory, thereby translating from the sphere of political economy to the sphere of the life sciences. On the contrary, Peirce privileges the agapastic theory of evolution and even considered his own strong attraction for this doctrine as possible proof of its validity insofar as it responds to the “normal judgment of the Sensible Heart” (CP 6.295).

Recalling Henry James, Peirce distinguished between self-love, that is, love which is directed to another considered identical to self, and creative love which instead is directed to that which is completely different, even “hostile and negative” in regard to self, love directed to the other as other. On this basis, a typology of love can be developed progressing from a high degree in the logic of identity to a high degree in the logic of otherness. But truly creative love, as both Welby and Peirce teach us, is love oriented by the logic of otherness, love for the other, directed without second ends to the other as other. The logic of agapasm converges with the logic of otherness and dialogism which constitutes the generating nucleus of sign and sense in the human world, of the interpersonal relation, of communication:

[...] the love that God is, is not a love of which hatred is the contrary; otherwise Satan would be a coördinate power; but it is a love which embraces hatred as an imperfect stage of it, an Anteros—yea, even needs hatred and hatefulness as its object. For self-love is no love; so if God's self is love, that which he loves must be defect of love; just as a luminary can light up only that which otherwise would be dark. Henry James, the Swedenborgian, says: “It is no doubt very tolerable finite or creaturely love to love one's own in another, to love another for his conformity to one's self: but nothing can be in more flagrant contrast with the creative Love, all whose tenderness *ex vi termini* must be reserved only for what intrinsically is most bitterly hostile and negative to itself.” (CP 6.287)

The Peircean concept of reason fired by love may be connected to Welby's own association of love to logic. The excerpt below is from a letter to Peirce of 22 December 1903:

May I say in conclusion that I see strongly how much we have lost and are losing by the barrier which we set up between emotion and intellect, between feeling and reasoning. Distinction must of course remain. I am the last person to wish this blurred. But I should like to put it thus: The difference e.g. between our highest standards of love and the animal's is that they imply knowledge in logical order. We know *that, what, how* and above all, *why* we love. Thus the logic is bound up in that very feeling which we contrast with it. But while in our eyes logic is merely “formal,” merely structural, merely question of argument, “cold and hard,” we need a word which shall express the combination of “logic and love.” And this I have tried to supply in “Significs.” (Welby to Peirce, in Hardwick 1977, p. 15)

In an advanced phase of his studies and in the framework of his pragmatism, Peirce described subjectivity as a set of actions, practices, and habits. Furthermore, he identified “power” as an essential characteristic of the subject as opposed to “force.” The incarnate self is a centre of power oriented toward an end, an agent devoted to a more or less integrated set of “purposes.” This approach can be related to Welby's “purport” or “ultimate value” which is associated with “significance,” the third element of her meaning triad (the other two terms being “meaning” and

“sense”). Power is not “brute force” but the “creative power of reasonableness” which by virtue of its agapastic orientation rules over all other forms of power and is accompanied by doubt (see *CP* 5.520). Power associated with reasonableness is the capacity to respond to the attraction exerted on self by the other; therefore, power and reasonableness denote the capacity to respond to the other, which presupposes relations regulated by dialogism, by unindifferent difference, the dialogic of listening and intercorporeality.

In the architectonics of Peirce’s thought system, the self, subjectivity, is not described as an individual in an absolute sense. The self is not an undivided, closed totality or a coherent and noncontradictory identity (Colapietro 1989; Petrilli and Ponzio 2005, Chap. 1). Insofar as it is a sign, or better, part of an open-ended semiotic chain of deferrals from one sign to the next, the self doubles into interpreted sign and interpretant sign, so that where there is one sign there are immediately two, and given that the interpretant is also a sign and therefore the interpreted of another interpretant, there are immediately three signs, and so forth according to the principle of infinite semiosis. As evidenced by the activities of speaking, deciding, discussing, coming to consciousness, and reasoning, self is structurally, constitutively other. It follows that self is not monologic but quite on the contrary is modeled by a plurality of voices, points of view, and parts in dialogue. Therefore, self’s identity is dialogic, polylogic, plurivocal, a detotalized identity.

Echoing Peirce, self may be envisaged as a community of selves, endowed with a capacity for criticism and projectuality, a community that interacts with the social community conceived as a sort of more fluid and less compact person (*CP* 5.421). The other is structural to identity, at the very heart of identity, while at once representing the external force of attraction that contributes to shaping identity in an evolutionary process of development oriented by the principle of love, by attraction for the other—the emotional other, the cognitive other, the ethic other, and the aesthetic other.

40.14 Redefining Subjectivity

The concepts of “identity” and “subjectivity” are closely interconnected and play a central role in global and world communication—whether a question of the identity of an individual subject or of a collective subject, a community subject whatever the dimensions (Western world, European Community, nation, ethnic group, social class, etc.). However, the concepts of individual identity and collective or community identity need to be reconsidered in a semiotic key, remembering that in both cases identity is either oriented monologically or dialogically, and which of the two makes a profound difference.

Charles Peirce has contributed to redefining human subjectivity from a semiotic perspective. The human being, the I, the subject is an extremely complex sign made of verbal and nonverbal material, of “language,” of semiotic processes or sign activity. Thanks to the interpretive–propositional vocation of such sign activity, it

can potentially generate an infinite number of signifying trajectories. With reference to verbal signs, says Peirce, “men and words educate each other reciprocally; every increase in a man’s information involves and is involved by a corresponding increase in word information” (*CP* 5.313). Consciousness converges with the word given that “the word or sign which man uses *is* the man himself” (*CP* 5.314; see Petrilli 2012, 7.4; Thellefsen and Soerensen 2014). As a developing sign, the subject is dialogical and relational, an *open* subject in becoming in the intrapersonal and interpersonal relation with other signs and other subjects. The boundaries of the subject–sign are not defined once and for all, but can only be traced in dialogic encounter with other signs. As Peirce says, when one studies the great principle of continuity, what he calls synechism, and sees that all is fluid, that every being is connected to every other, it will appear that individualism and falsity are one and the same. Human beings are possible members of society and are not whole so long as they are single, that is, stand separately from others. One person’s experience is nothing, if it stands alone. In Peirce’s words: “If he sees what others cannot, we call it hallucination. It is not ‘my’ experience, but ‘our’ experience that has to be thought of; and this ‘us’ has indefinite possibilities” (*CP* 5.402 no. 2). Individual action is a means and not an end, just as individual pleasure is not our end: “we are all putting our shoulders to the wheel for an end that none of us can catch more than a glimpse at—that which the generations are working out. But we can see that the development of embodied ideas is what it will consist in” (*Ibid.*).

The single individual develops in sociality, in the relation with the experiences of others, and never in isolation. The self is a community in itself, a community of dialogically interrelated selves, subject to the logic of otherness. The word “individual” interpreted literally means “nondivided, nondivisible.” Again in Peirce’s own words:

Two things here are all-important to assure oneself of and to remember. The first is that a person is not absolutely an individual. His thoughts are what he is “saying to himself,” that is, is saying to that other self that is just coming into life in the flow of time. When one reasons, it is that critical self that one is trying to persuade; and all thought whatsoever is a sign, and is mostly of the nature of language. The second thing to remember is that the man’s circle of society (however widely or narrowly this phrase may be understood), is a sort of loosely compacted person, in some respect of higher rank than the person of an individual organism. (*CP* 5.421)

Peirce contrasts the concepts of “personality,” “personal self,” and “individual self,” which imply a self-sufficient self, or, as he says, a finite self, with the concept of self in communion with other selves. The finite self, the “personal self,” is an “illusory phenomenon.” However, the different forms of egotism are not aware of this and the illusion of being able to egotistically isolate oneself ends up creating the very conditions for such isolation.

The social and communal character of self does not contradict its singularity and uniqueness or capacity for otherness with respect to any interpretive process that may concern it. The uniqueness of self, its irreducibility to a single and fixed referent is unveiled and developed in the relationship with the other. Insofar as it is unique, the self is ineffable (*CP* 1.357). Echoing Emmanuel Levinas, the self is

saying beyond the said. The utterances of self convey significance beyond words. And yet the ineffability and uniqueness of self do not imply the sacrifice of communicability, for what the self is in itself (in its firtiness) can always be communicated to a degree, even if only to communicate the impossibility of communicating. From a Peircean perspective, neither absolute solitude nor muteness characterize the human condition in its specificity, in its most profound nature.

The problem of subjectivity is also at the centre of Victoria Welby's attention. Her unpublished manuscripts include a file entitled *Subjectivity* which collects a series of original papers by her written between 1903 and 1910 (Welby Collection, York University Archives, Scott Library, Toronto, Canada, now in Petrilli 2009, Chap. 6). The subject's identity is multiplex, plurifaceted, and plurivocal. It is delineated and modeled in the dialogical relation among its various parts. Welby analyzes subjectivity in terms of the complex and articulated relation between what she calls the "I," or, introducing a neologism, *Ident* and the "self" (see the manuscripts of 1907–1910, in Petrilli 2009, pp. 646–670). The "I" develops in the relation with the "self" or, rather, with the multiple *selves* constituting the different faces of the *Ident*. Here, too, otherness emerges as a necessary condition for the constitution of subjectivity.

On establishing a distinction between I and Self, Welby clarifies that "the Self is included in 'I,' but not conversely.... The race like the individual *has* a Self because it *is* an 'I'" ("The I and the Self," undated manuscript). The Self is a representation of the I, a part of it, what we *have* and therefore cannot *be*. The I is what we *are* and, therefore, alludes to what we cannot *possess*. My "I" belongs to others just as "mine" belongs to (but does not coincide with) me.

Similarly to the body, the *self*—for which Welby also proposes the term *ephemeron*—is mortal, ephemeral. By contrast, the I tends toward immortality beyond the mortality of the self and the body. The I or *Ident* coincides with the activity of gift making, giving without return, beyond possession. As understood by Welby, it transcends closed identity and converges with the capacity to resist the violence of monologism, univocality, the order of discourse, and the said. In other words, the *Ident* is oriented by the logic of otherness and is characterized by high degrees of "semiotic materiality" (see Petrilli 2012a, pp. 152–156; and 2010, pp. 137–157) in the continuous flow of interpretants whose rhythm is beaten out by the succession, superimposition, multiplication, and cohabitation of one's multiple *selves*.

Far from being unitary and compact, identity formed in this way presents an excess, something more compared to closed and fixed identity. Self does not coincide with the I but is one of its representations, an opening, a means, an instrument, or modality, but never an end in itself. Therefore, contrary to the tendency to exalt the self, to establish a relation of substitution, usurpation, and identification between self and I, identity develops from the relationship of dialogic otherness between self and I as well as among the multiple selves that constitute the I. Identity is the ongoing, generative, and dynamic outcome of the relationship of dialogical distancing and differentiation of self from *Ident*. Welby's generative conception of human consciousness recalls Peirce's as it emerges from his own writings on the sign.

Peirce maintains that “self-love is no love” (*CP* 6.288). Along similar lines, Welby contends that the ultimate “sin consists in *our* giving our selves leave to demand and secure gratification, pleasure, ease, for their own sake: to be greedy of welfare at some human expense.” In other words, it consists in allowing the *self* to transform *selfness* into *selfishness*. Though the action of the centripetal forces of *self* may be necessary for “self-preservation here,” for “survival now,” the condition of being oriented univocally toward one’s own self generally defeats evolutionary development to the extent that it generates “self-regarding selfishness.” Indeed, in reality, “egotism, however, properly speaking, is impossible: I cannot love or center upon I, for I am essentially that which radiates: that which *is* the knowing, living, activity: It is only selfism that we mean; not egoism.”

In Welby’s view, hedonist ethics, the dominant ideology of her times (much like our own) implies reducing the vastness of the cosmos to the status of mere annex to the planetary egoist and parasite. Therefore, in the perspective of monological identity, it implies reducing the degree of difference (understood in terms of otherness) in the relation between I and self to the advantage of self, or rather one’s multiple selves. On the contrary, the “supreme function of the Ident’s self,” as Welby says, is to put itself at the service of the Ident and to collaborate in generating, knowing, serving, mastering, and transfiguring our actual and possible worlds; the mission of our selves being “to master the world for Identity in difference.... The Ident is one in all, but also all in each. The Ident’s name is first multiplex—we, us, then complex, I, me. That Ident has, possesses, works through—a self, or even many selves.” As she writes in her unpublished papers on subjectivity: “It is precisely our di-viduality that forms the wealth of our gifts.”

For both Welby and Peirce, the subject is a community of distinct but inseparable selves. These parts or selves do not exclude each other, but rather are interconnected by relations of reciprocal dependency regulated by the logic of otherness and unindifference among differences. Such logic resists undifferentiated confusion among parts, therefore the tendency to level the other onto the monological self. As Welby says: “to confound is to sacrifice distinction.” To the extent that it represents an excess with respect to the sum of its parts, the I or Ident is not the “individual” but the “unique” which may be associated with the concept of “nonrelative otherness” or “absolute otherness” as thematized by Levinas (1961), and implies an original relation of involvement, compromission and unindifference toward the other and the world in its detotalized totality.

40.15 Mother-sense: An A Priori for Subjectivity, Signification, and Critique

In another series of unpublished manuscripts written at the beginning of the twentieth century (see Petrilli 2009, Chap. 6), Welby proposed the original concept of *mother-sense* (also designated with the expressions *primal sense* and its variant *primary sense*). Mother-sense plays a central role in the generation of sense, meaning,

and significance, therefore in the construction and interpretation of worldviews. She distinguishes between “sense” and “mother-sense,” on the one hand, and “intellect” and “father-reason,” on the other. This distinction indicates two fundamental cross-gender modalities in the generation and interpretation of sense-producing processes, where “sense” is broadly understood to include “meaning” and “significance.” Such processes may be isolated by way of abstraction, hypothetically, for the sake of theorization, but on a pragmatic level, in the reality of concrete signifying practice they are strictly interrelated (for all these aspects see Petrilli 2009, pp. 573–730, which also includes papers by Welby published for the first time).

On Welby’s account, “mother-sense” refers to the generating source of sense together with the capacity for creativity and criticism. Mother-sense is regulated by the logic of dialogic otherness and is the condition for the acquisition of knowledge through feeling, perception, intuition, and creative leaps. Beyond the capacity for the logical processes of the intellect, for reasoning, mother-sense is the condition for sympathetic understanding, to evoke Peirce, for answering comprehension, in the language of Bakhtin, for creativity, intuition, and transcendence. Mother-sense, according to Peirce (who introduces the expression “mother-wit”), allows for the idea to be intuited before it is possessed or before it possesses us. It is a capacity specific to humanity, says Welby, “knowledge of the race” which transcends gender, “an inheritance common to humanity,” as much as woman may emerge as its main guardian on a historico-social level.

The intellect engenders *rational* knowledge through processes of reasoning, asserting, generalizing about data observed and experimented in science, logic, and everyday life. A limit consists in the tendency to allow for the tyranny of data which we intend to possess, but which instead possesses us. The intellect is a cognitive capacity often ruled by dominant ideology, therefore by the logic of dogma and convention. Moreover, the sphere of intellectual knowledge is mostly entrusted to the jurisdiction of the male, simply for sociocultural reasons, and not because of some special natural propensity for rational reasoning exclusive to masculinity. Healthy intellect derives from mother-sense from which it must never be separated: Otherwise, the penalty is loss of sense and significance, of the faculty for creativity and critique, leveling of the capacity for dialogic multivoicedness and polylogism. That which the intellect must exert itself to reach mother-sense already experiences in a broad sense, that is, already knows, intuits, and feels.

Mother-sense (synonyms introduced by Welby include “primal sense,” “primary sense,” “original sense,” “racial sense,” “native sense,” “matrix,” etc.) is connected with signifying processes oriented by the logic of otherness and iconicity; it alludes to the creative and generative forces of sense resulting from the capacity to associate things which seem distant, but which instead are attracted to each other; from the point of view of argumentation, it allows for logical procedures of the abductive type which are regulated by the logic of otherness, creativity, dialogism, freedom, and desire. Peirce explicitly associates desire to meaning understood in both semiotic and axiological terms. Welby’s correspondence with Mary Everest Boole (wife of the famous logician and mathematician George Boole and writer in her own right) is largely dedicated to discussing the laws of thought and the con-

nection between logic, love, passion, and power (see Cust 1929, pp. 86–92, 1931; and Petrilli 2009, Chap. 2).

According to Welby, logic proper is the place where the broader generative dimensions of sense (the original, primal, racial, mother-sense dimension, the “matrix”) interweave with reason dialectically, or, better, dialogically. The relation of responsive understanding (or answering comprehension) and reciprocal empowering between primal sense and rational life is necessary to the full development of critical sense and to the attainment of maximum value, meaning, and purport as regards experience in its totality. Welby’s mother-sense brings into focus the value of significance before and after signification, as Levinas (1978) would say. Mother-sense concerns both the real and the ideal aspects of our signifying practices: The real insofar as it concerns the concrete aspects of praxis and the ideal insofar as it is the condition by virtue of which humanity may aspire to continuity and perfection in the generation of actual and possible worlds and of signifying processes at large.

Welby’s conception of logic may also be associated with Peirce’s when he claims that the great principle of logic is “self-surrender,” which means to regulate inferential processes according to the logic of opening and otherness. Nor does the principle of self-surrender from a pragmatic viewpoint imply that self is to lay low for the sake of an ultimate triumph, which even if attained must not be the governing purpose of any action (*CP* 5.402, note 2). In a letter of 21 January 1909, Welby agrees with Peirce’s observation that logic is the “ethics of the intellect,” which she relates to her own conception of primal sense: “Of course I assent to your definition of a logical inference, and agree that Logic is in fact an application of morality in the largest and highest sense of the word. That is entirely consonant with the witness of Primal Sense” (in Hardwick 1977, p. 91). Scientific rigor in reasoning is founded on mother-sense and is closely interconnected with logical procedure of the agapastic type, therefore with the logic of otherness, inexactitude, instability, and crisis, considered to be no less than structural to the evolution of sign, subjectivity and signifying processes. Moreover, the critical instance of logical procedure, especially when a question of abduction, that is, logical procedure governed by the iconic relation of similarity (abduction is one of three types of inferential processes, the other two are deduction and induction), allows for prevision and is favored by translational processes across languages, that is, by interpretation, verification, and development of the signs of one language through the interpretants of other languages, verbal and nonverbal (see Petrilli 2012a, 8.1, 8.4). In other words, translational processes amplify critical logical procedure and the amplification of sense through semiotic spheres beyond the limits of verbal sign systems and interlingual translation (Petrilli 2007c).

The self’s vulnerability and readiness to venture toward the other with all the risks implied were portrayed by Plato and the myth featuring Eros (in the *Symposium*), a sort of intermediate divinity or demon generated by Penia (poverty, need) and Poros (the God of ingenuity) who finds his way even when it is hidden. According to Welby, a condition for the evolution of humanity is the connection between self-enrichment and risky opening toward the other. With reference to this connection, she elaborates a critique of “being satisfied,” and theorizes the capacity for

“transcendence” with respect to the world as it is, to ontological being given once and for all: “We all tend now, men and women, to be satisfied with things as they are. But we have all entered the world precisely to be dissatisfied with it.” “Dissatisfaction” is an important aspect of “mother-sense” and signals the need to recover the critical instance of human intellectual capacities, the propensity for questioning. This implies the human species-specific capacity for otherness and dialogic displacement of sense in the deferral among signs.

40.16 Sense and Expression in Sociality

Both Welby and Peirce have significantly contributed to developing a global science of signs capable of accounting for signifying processes in all their complexity and articulation, of considering meaning in terms of signification, sense, and significance. Though never having met personally, they confronted their ideas with each other, and corresponded intensely during the last decade of their lives, leaving a rich corpus of letter exchanges of high theoretical value and mutually influencing each other’s research itineraries. Following Peirce and Welby, the study of signs and signifying processes cannot make claims to neutrality, therefore they cannot be merely descriptive.

The approach to signs adopted by the authors mentioned so far presupposes special attention for the human being’s involvement in the life of signs viewed not only from the theoretical–cognitive perspective but also from the ethical–pragmatic. In particular, from the point of view of the present chapter, both Peirce and Welby work toward a general science of signs and meaning able to account for semiotic processes, human and nonhuman, verbal and nonverbal in all their diversity, complexity and articulation; in relation to specifically human semiosis, for meaning not only in terms of signification but also of significance, or sense as understood by Levinas. In fact, both Peirce and Welby knew, as Morris or Levinas after them, that signs are not neutral and cannot be sufficiently analyzed in descriptive terms alone. To study subjectivity and its signs with claims to neutrality is reductive and entirely inadequate for a full understanding of semiosis in the human world. Beyond a strictly gnoseological approach, a global understanding of human consciousness and behavior, verbal and nonverbal, requires a special focus on the relation of signs to values and adequate contextualization in terms of biosemiosis and even beyond with cosmoemiosis.

Most interesting is how Peirce and Welby anticipated considerations that were to reemerge in the writings of a contemporary philosopher like Emmanuel Levinas who thematizes the otherness relationship throughout all his writings. According to Levinas, desire of the other, attraction to the other, the relation to the other is an original experience, an essential movement conferring sense upon social experience, even the most insignificant.

Developing Peirce’s discourse in the direction of the philosophy of subjectivity as elaborated by Levinas, love transforms fear *of* the other—in the double sense of

fear provoked in the subject by the other, the subject's fear of the other, on the one hand, and fear provoked in the object, the object's fear, on the other hand—into fear *for* the other. Beyond the “subject genitive” and the “object genitive,” foreseen by traditional grammatical categories, fear *for* the other may be described as the “ethic genitive,” therefore fear for the other as fear for the other's safety and well-being to the point of becoming responsible for the other and taking the blame even for any injustice endured (see Ponzio 2006b, pp. 30–32). Therefore, under the hardened crust of identity the subject rediscovers the capacity to fear *for* the other, fear that renders the subject incessantly restless and preoccupied with the other. Love, reasonableness, and creativity are all grounded in the logic of otherness and dialogism which together enhance the evolutionary dynamics of human consciousness. The ancient vocation for love and absolute otherness is anarchical, it precedes origins and principles, the formation of consciousness and subjectivity in terms of identity, and characterizes the properly human.

Levinas critiques approaches to language analysis in contemporary philosophy that focus on hermeneutic structure and on the cultural work of expression by incarnate being, while forgetting a third dimension. That is, orientation toward the other, this other that is not only a collaborator and neighbor in the cultural gesture of expression, or a client for our artistic work, but far more significantly, an “interlocutor.” Levinas defines the interlocutor as the person to whom the expression expresses, for whom the celebration celebrates, at once the term of orientation and primary signification. In other words, before being the celebration of being, expression is a relation with the person to whom I express the expression and whose presence is a necessary condition for the very production of my cultural gesture of expression. The other in front of me, *autrui* as Levinas says, is not englobed in the totality of the expressed being, but escapes being, is the shadow of being, its face, excess with respect to being, evasion from being. The other is neither a cultural signification, nor a simple given. Far more radically, the other is primordial sense, the possibility of sense for the expression itself. Only thanks to the other can such a phenomenon as signification even enter being (see Levinas 1972, pp. 49–50).

40.17 Semioethics and the Humanism of Otherness

A special task for semioethics is to evidence the biosemiotic condition of dialogic involvement among signs, the condition of intercorporeity, interconnectedness, therefore to unmask the delusory claim to the status of indifferent differences. Semioethics is committed to a new form of humanism based on the logic of otherness, humanism of the other. This also emerges from its commitment to pragmatics and focus on the relation between signs, values, and behavior. Moreover, semioethics aims to transcend separatism among the sciences, insisting on the interrelation between the human sciences, the historico-social sciences, and the natural, logico-mathematical sciences. This new form of humanism is humanism of the other as thematized by Levinas throughout all his writings, in particular *Humanisme de*

l'autre homme (1972). Humanism of the other involves a “movement” without return to the subject, a movement which Levinas calls *œuvre*, exposition to otherness with all the risks this involves: hybridization of identity, fragmentation, impossibility of reassuring monologism, and evasion from the subject–object relation. *Outside the Subject (Hors Sujet)* is the title of another book by Levinas, published in 1987b: “outside the subject” also in the sense of getting off the subject, of irreducibility to theme, to representation.

Human rights as they have so far been practised tend to be oriented by identity logic and to leave aside the rights of the other. Traditionally, the expression “human rights” is an interpretant of the humanism of identity, consequently it refers to the rights of identity, of closed identity, of self oriented by the logic of closed identity, it refers to one’s own rights, forgetting the rights of the other. On the contrary, from the perspective of caring for life over the planet, human and nonhuman, for the health of semiosis generally, the development of communication not only in strictly cultural terms but also in broader biosemiosical terms, this tendency must quickly be counteracted by the humanism of otherness, where the rights of the other are the first to be recognized—not only the other *beyond self* but also the other *of self*. The self characteristically removes, suffocates, and segregates otherness, sacrificing it to the cause of identity. But developed in such terms, identity is fictitious and destined to failure, despite all efforts made to recover identity, to maintain and assert it.

Semiotics contributes to humanism of the other by evidencing the extension and consistency of the sign network which connects each human being to every other on both the synchronic and diachronic levels: The global and worldwide extension of the communication network is spreading at a planetary level and as such is susceptible to analysis in terms of synchrony; and given that the destiny of humanity is interrelated with the destiny of the individual, is conditioned by events, actions, and decisions made by the individual, from its remotest to its most recent manifestations, involving the past and the evolutionary future on both the biological and historico-social levels, diachronic investigations are also in place. The sign network includes the semiosphere created by humanity, that is, human culture with its signs, symbols, and artifacts, etc.; but as global semiotics teaches us—in particular as interpreted by Thomas A. Sebeok who postulates that semiosis and life converge—the semiosphere is far broader than the sphere of human culture and, in fact, coincides with the biosphere. The semio(bio)sphere is the habitat of humanity, the matrix whence we sprang and the stage on which we are destined to act.

Human sign behavior can be interpreted in light of the hypothesis that if the human involves signs, signs in turn are human. However, far from reasserting monological identity once again or proposing yet another form of anthropocentrism, this humanistic commitment implies radical decentralization provoking nothing less than a Copernican revolution. In Welby’s language, “geocentrism” must be superseded, then “heliocentrism” until we approximate a truly cosmic perspective where global semiotics and semioethics intersect. Otherness more than anything else is at stake when a question of responsibility and, therefore, of humanism understood as humanism of the other, oriented by the logic of otherness, remembering that by “otherness” is understood not only the otherness of our neighbor, even if distant

spatially—though now relatively so given the worldwide expansion of the communication network— but also the otherness of living beings distant in genetic terms.

Reformulating Terence's famous saying ("*homo sum: hmani nihil mihi alienum puto*"), Roman Jakobson asserts that "*linguista sum: linguistici nihil mihi alienum puto.*" The semiotician's commitment to all that is linguistic, indeed, to all that is sign material (not only relatively to anthroposemiosis or more extensively to zoosemiosis, but to the whole semiobiosphere) resounds in both a cognitive and ethical sense. This commitment involves concern for the other, not only in the sense of "to be concerned with..." but also "to be concerned for..." "to care for." In such a framework, concern for the other implies a capacity for responsibility without limitations of belonging, proximity, or community, which of course is not exclusive to the "linguist" or "semiotician." Developing Jakobson's view, the claim is that not as professional linguists or semioticians, but more significantly as human beings, no sign is "a me alienum"; and leaving the first part of Terence's saying unmodified, "homo sum," we could continue with the statement that as humans we are not only *semiosic* animals (like all other animals) but also *semiotic* animals. From this point of view, humans are unique with respect to the rest of the animal kingdom with the consequence that nothing semiosical, including the biosphere and the evolutionary cosmos whence it sprang, "*mihi alienum puto.*"

Semioethics does not have a program to propose with intended aims and practices, nor a decalogue or formula to apply more or less sincerely, more or less hypocritically. Rather, semioethics is focused on the human capacity for critique. From this point of view, *stereotypes*, *norms*, and *ideology* are subject to critical interpretation and with them the different types of value (see, for example, Morris 1964 for the triad "operative value," "conceived value," "object value," and subordinate tripartition "detachment," "dominance," and "dependence"). As anticipated above, the vocation of semioethics is to evidence sign networks where it seemed there were none. This means to bring to light and to evaluate connections and implications (which in truth cannot be escaped) where there only seemed to exist net separations and divisions, boundaries and distances, with relative alibis which serve to safeguard responsibility in a limited sense, the individual conscience (which is always ready to present itself in the form of good conscience). Semioethics is not focused on a given value, an ultimate end, the *summum bonum*, but rather on semiosis in its dialogical and detotalized totality: Indeed, with semioethics, the aim is to transcend the totality, the boundaries of the totality—a being, an entity of some sort—as foreseen by the reality of infinite semiosis.

Understood not only as a science but also as an attitude, a propensity (for metasemiosis, that is, for reflection and deliberation), semiotics arises and develops within the field of anthroposemiosis. Therefore, it is connected with the *Umwelt* and species-specific modeling device proper to human beings. This species-specific primary modeling device, also called language, endows humans (differently from other animals) with a special capacity for producing a great plurality of different worlds, real and imaginary, and this means that humans are not condemned to imprisonment in the world as it is, to forms of vulgar realism. Semiotics is a fact of the human species, but the possibility of its effective realization is a fact of the historico-social

order. In addition to being a biosemiosical endowment, the human *Umwelt* is a historico-social product, so that any possibility of transformation or alternative hypothesis finds its effective grounding and starting point, its terms of confrontation, its instruments for critique and programming in historico-social reality as distinct from merely biological material.

An important task for “semioethics” today is to interpret the social symptoms of semiosis and its malfunctioning as produced by globalization in today’s global communication–production society. As global semiotics, general semiotics today can carry out a detotalizing function and conduct a critique of all (claims to the status of) totalities, including global communication. Failing the task, general semiotics will be no more than a syncretic result of the special semiotics, a transversal language of the encyclopedia of the unified sciences, prevarication of philosophy suffering from the will to omniscience with respect to the plurality of different disciplines and specialized fields of knowledge. Semioethics can begin from the current phase in historico-social development, contemporaneity, and proceed to a critical and rigorous analysis of today’s society, investigating communication–production social structures and relationships. The critical work of global semiotics and semioethics can contribute to uncovering the delusory condition of mutual indifference among differences, and show instead how the destiny of each one of us is connected to the destiny of every other, in the last analysis how the whole planet’s destiny is implied in the destiny of each single individual and vice versa.

Given that social forms of production in today’s communication–production system have been mostly homogenized, semioethics is at an advantage. We could even claim that the whole planet is regulated by a single type of social reproduction system, what we have designated as the “communication–production system” (which dominates and englobes the entire planet), by a single type of market. The dominant production, exchange, and consumption cycle is so pervasive that it is determining the same type of human behavior globally. Not only have habits, taste, and fashion (including “dress fashion”) been homologated worldwide but also the human imaginary, the capacity for the play of musement. A widespread consequence is that difference understood in terms of *otherness* is replaced ever more by difference understood in terms of mere *alternatives*.

However, the “advantage” of this situation as we are describing it is a sad one for, having eliminated diversity and difference and sacrificed otherness, it presents us with just one type of reality. No doubt the task of analysis is simplified given that energy will not be dispersed in the effort to deal with a great multiplicity of different phenomena. But, obviously, the term “advantage” is ironical here for the advantage of a monolithic block implies the condition of monologism, therefore death of the other, suppression of different points of view, of different voices. By contrast with polylogism, monologism is incapable of critical discourse. Plurivocality and polylogism favor creative interpretation, critical questioning, listening and responsibility for the other, translation across different signs and sign systems, and freedom from the bonds of unquestioning univocality. In a world characterized by monologism, the critical task of semioethics is rendered extremely difficult, almost impossible, given that appropriate conceptual instruments adequate for the work of

critique are not readily available. However, semioethics must face the challenge and invent working hypotheses and instruments of analysis that are not homologated to dominant ideology, that do not derive from common sense and cannot be taken for granted.

Semioethics offers the broadest view possible, available to semiotic animals (or human beings) today. As *cosmically* responsible agents, we must not only do justice to the human capacity for semioethics on a theoretical level but we must also evidence the vital need for it (these days more than ever before), to the end of safeguarding not only human life, but all of life indiscriminately over the planet. Humanism of the other requires nothing less: in fact, if the health of semiosis at large, of identity itself are to be safeguarded in the present-day global communication–production system where the logic of shortsighted identity dominates over the rights of the other, not only is it necessary to understand and explain the semioethical capacity but also to evidence the need for it, the need to cultivate the human propensity for a semioethical approach to life in the most conscientious, imaginative, and responsible terms possible. Semiotics has the merit of demonstrating that whatever is human, indeed, from a global semiotic perspective, whatever is alive involves signs. This is as far as cognitive semiotics and global semiotics reach. But semioethics can push this awareness even further by relating semiosis to values and focusing on the question of sense and responsibility. This is inescapable responsibility that invests human beings as “semiotic animals,” or, if you please, “semioethical animals”, which implies the human capacity to take responsibility for all of life over the planet.

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Susan Petrilli is Professor of philosophy and theory of languages at the University of Bari “Aldo Moro,” Italy. Her research includes but is not limited to the following areas: philosophy of language, biosemiotics, bioethics, semiotics and interpretation, translation theory, and the work of Lady Victoria Welby. The following are some of her books in semiotics, co-authored with Augusto Ponzio, that are essential to an understanding of this interdisciplinary: *Thomas Sebeok and the Signs of Life* (2001), *I segni e la vita. Sulla semiotica globale di Thomas A. Sebeok* (2002), *The Semiotic Animal (also with J. Deely 2005)*, *Reasoning with Emmanuel Levinas (also with J. Ponzio 2005)*, *Semiotics Unbounded: Interpretive Routes through the Open Network of Signs* (2005), *Semiotics Today: From Global Semiotics to Semioethics* (2007), *Lineamenti di semiotica e filosofia del linguaggio* (2008). In addition, her monographs include: *Significs and Understanding. Reading the Works of Victoria Welby and the Signific Movement* (2009), *Sign Crossroads in Global Perspective. Semiotics and Responsibilities* (2010), *Parlando di segni con maestri di segni* (2011), *Un mondo di segni. L’aver senso e il significare qualcosa* (2012), *Expression and Interpretation in Language* (2012), *The Self as a Sign, the World and the Other* (2013), *Riflessioni sulla teoria del linguaggio e dei segni* (2014), *Sign Studies and Semioethics. Communication, Translation and Values* (2014), *La vita dei segni. Percorsi della semiotica* (2015), *Victoria Welby and the Science of Signs. Significs, Semiotics, Philosophy of Language* (2015).

Chapter 41

The Street: The Ultimate Locus of Political Intervention in Modern Democracy

Maria Isabel Aldinhas Ferreira

41.1 Human Reality: Institutions as Semiotic Objects

Cassirer (1996) wrote that whatever is alive has its own circle of action for which it is there and which is there “for” it—both as a wall that closes it off and as a viewpoint that it holds “open” for the world. However, according to him, only with humankind this life complex becomes a knowledge complex.

In fact, human cognition comprehends not just the organism’s capacity to cope and interact with specific physical environments but also the capacity to construct and evolve in dynamic differentiated economic, social, cultural and linguistic contexts, defining specific world views. These world representations—*Umwelten*—will define the nature and set of states of individual *Innenwelten*, determining and defining this way the nature and scope of individual and collective behaviour.

It is this complex semiosis that is responsible for the production of all systems of values—distinct semiotic lattices—that give body to specific economic, social and cultural frameworks, where salience and meaningfulness defined according to particular historical, cultural and linguistic backgrounds are consolidated or redefined by recurrent individual and collective experience.

It is by interacting with his peers within distinct environmental circles—the family circle, the friends and acquaintances circle, the academic circle and the work circle—that the individual incorporates the values and codes that constitute a background prior to his own personal experience. This background, from which she/he can hardly run away, will always determine heading and attitudes.

Reified by language, human semiosis produces objects of differentiated nature and ontological status, giving substance to the individual’s world. Institutions, in the broader sense of the term, are the semiotic objects responsible for the definition of social tissues playing a fundamental role sustaining and guaranteeing their cohesion and efficient functioning.

M. I. Aldinhas Ferreira (✉)

Centre of Philosophy, Faculty of Letters of the University of Lisbon, Lisbon, Portugal
e-mail: aldinhasferreira@gmail.com

By identifying roles and consequently hierarchies that will determine the nature, scope and limits of individual action and peer to peer interaction, within differentiated social spheres, institutions define the social structuring and establish the typical regular patterns of behaviour that are supposed to consubstantiate individual and collective activity in compliance with structured unitary systems of social conventions.¹

In this perspective, reality designates not an external objective world, but an individual and collective semiotic construction. This construction is responsible for the definition and reification of world entities, for the objectification of social rules and patterns of behaviour and for the production of all systems of values on which every society stands. These complex systems of values, semiotic lattices are the substance of distinct historical frameworks, where salience and meaningfulness are defined according to the needs and desires of individuals embedded in particular economic, social and cultural contexts.

According to Bourdieu and Wacquant (1992), “society is an ensemble of social relationships, objective relations which exist independently of individual consciousness and will”.² Simondon (1964) calls it a pre-experiential background issued from the experience of all precedent generations. In our opinion, this common pre-experiential background comes to life in every singular and collective appropriation, being in this course permanently rewritten and updated.

Embedded in specific civilizational frameworks, individuals progressively incorporate, since birth, each society’s specific regular patterns of behaviour³ that, as referred above, in compliance with the existent structured unitary systems of social conventions, guarantee the expected performance of all the functions that are supposed to take place in particular life contexts.

We could say that this process of semiotic incorporation is somehow translated by Bourdieu’s (1992) complementary concepts of “habitus” and “doxa”. Bourdieu (1992) points out that “habitus” generates and regulates the practices that make up social life being fundamental to what he designates as “social reproduction”. Through “habitus” acquisition, individuals learn to want what conditions make possible for them, and not to aspire to what is not available, being the most improbable practices, therefore excluded, as unthinkable.

The concept of “habitus” is very close to what we define as the incorporation of the typical patterns of behaviour that regulate and structure the individual’s meaningful world. This incorporation in fact enhances the development of particular individual and collective dispositions that are best suited to the conditions available⁴ within a specific economic, social and cultural framework.

¹ According to Searle (1995, 2010), institutions have status functions, i.e., they incorporate deontic properties (rights and duties) and, therefore, deontic powers. Thus, a police officer is endowed with a set of deontic powers, including rights to stop, search, and arrest people under certain conditions. These deontic powers only exist because, though collectively imposed, they are viewed as meaningful and relevant to the members of a community that convenes in accepting them.

² Bourdieu and Wacquant 1992.

³ Cf. Ferreira 2013.

⁴ These include, in Bourdieu’s (1992) opinion, tastes in art, literature, food and music.

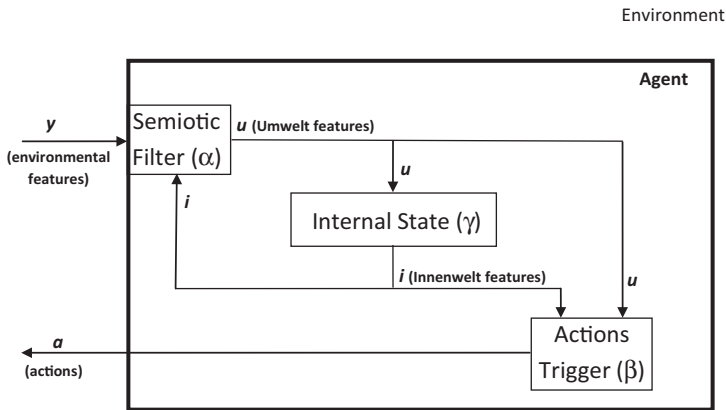


Fig. 41.1 The semiosis of cognition. (Ferreira and Caldas (2012, 2013))

According to Bourdieu’s definition, “doxa” refers to the learned, fundamental, deep-founded, unconscious beliefs and values, taken as self-evident universals, that inform an agent’s actions and thoughts within a particular field. These fundamental, deep-founded, non-conscious values and beliefs are in fact the substance of the individual’s meaningful world—*Umwelt*—i.e., the way she/he construes the reality she/he is embedded in.

Bourdieu (1992) claims that a doxic situation could be thought of as a situation characterized by a harmony between the “objective”, external structures; and the “subjective”, internal structures of the habitus. This way, in the doxic state, the social world is perceived as natural, taken for granted and even commonsensical.

This harmony between what is in fact the individual’s model of the world—*Umwelt*—and the individual’s expectations, desires and drives relatively to its construed world—*Innenwelt*—establishes the essential existential dialectic relationship that defines and explains the individual and collective being in the world.

Going back to the model defined by Ferreira and Caldas (2012, 2013), which for convenience of reading we depict below, we can view how these phenomena correlate (Fig. 41.1):

Vector y represents all the potential information present in the general environment. This concept comprehends not only the global human environment with its distinct economic, social and cultural frameworks but also the general environment that exists as a potential to every living form.

But even typical human environments will be differently construed by agents⁵ depending on the distinct civilizational or cultural frameworks they are embedded in and sometimes even depending on the state(s) defined by their own individual *Innenwelten*.

⁵ This distinct construction of world views can range from a slight one in the case of individuals embedded in the same semiosphere to a strong one in the case of individuals belonging to distinct civilizational or cultural frameworks.

As a consequence, different features will have different importance at different times and within different contexts. The agent's representation of its environment (*Umwelt*) comprehending the learned, fundamental, deep-founded, unconscious beliefs and values, taken as self-evident universals, that inform an agent's actions and thoughts within particular fields is obtained again through the $(N_u \times 1)$ vector, \mathbf{u} , created from the environmental features vector, \mathbf{y} , through the application of the semiotic filter, \mathbf{F} . The nature of this semiotic filter will be dependent on the way "habitus" will have been incorporated by the individual and reflected in his/her internal state (*Innenwelt*) at time t' .

To conclude this section, we want to stress the essential role played by the dialectics inherent to the semiosis of cognition in the structuring and functioning not only of individuals but also of human societies.

We believe that the equilibrium between what are the community's expectations, desires and drives relatively to its construed world, (the collective *Innenwelt*), and the response reality, namely institutions are capable of providing, establishes an essential existential dialectic relationship that defines and explains the individual and collective being in the world.

The cohesion of reality and consequently the equilibrium of a given social framework depends, in fact, on the identification, assignment of meaning and acceptance of its fundamental institutions by the members of the community. When the "re-affirming" necessary to their validation doesn't occur, when individuals fail to identify and accept as theirs fundamental semiotic objects as those sustaining particular ideological, economic, social, political or religious frameworks, when these cease to stand for the community's and for the individual's essential needs and desires, restructuring occurs and new models are bound to emerge.

41.2 Democracy: A Government of the People for the People

The concept of democracy is at the core of the semiotic constellation that sustains the ideological framework defining contemporary Western societies, as imprinted in the US constitution: "A government of the people, for the people, by the people" or in the statement by Thukydides that precedes the draft constitutional treaty elaborated by the European Convention⁶: "Our Constitution...is called democracy because power is in the hands not of a minority but of the greatest number". In the Treaty of Amsterdam, representative and participatory democracy (art. 45) is explicitly introduced as a fundamental value into the foundational European treaties. The concept of democracy stands as the dream or goal for all those that live in nondemocratic frameworks.

⁶ Draft Treaty establishing a Constitution for Europe, adopted by consensus by the European Convention on 13 June and 10 July 2003.

Equality, freedom—freedom of political expression, freedom of speech and freedom of the press—and a set of constitutional rights and duties have always been identified as fundamental defining features of the concept of democracy.

All citizens are equal before the law and should, through legislative processes, have an equal part in the decisions that affect their lives. In a representative democracy, every vote has equal weight and the freedom of its eligible citizens is secured by legitimized rights and liberties, which are guaranteed by a constitution.

This way, democracy presupposes that every citizen has the opportunity to participate at least indirectly in collective decisions of the community. The concept of democracy grants each individual the possibility of effectively participating in the definition of the political decisions that will shape a community's evolution and will influence the individuals' well being.

Political parties are one of the core institutions of democracy. Diamond and Gunther (2001) refer seven functions that can clearly be assigned to political parties:

1. They recruit and nominate candidates for elective office.
2. They mobilize electoral support for candidates and stimulate electoral participation.
3. They structure the choices among competing groups of candidates along different issue dimensions.
4. They represent different social groups, either symbolically or in advancing specific interests.
5. They aggregate specific interests into broader electoral and governing coalitions.
6. They form and sustain governments
7. They integrate citizens more broadly into the nation-state and its political process.

Johnston (2005) stresses that democracy needs strong and sustainable political parties with the capacity to represent citizens and provide policy choices that demonstrate their ability to govern for the public good. But as Diamond and Gunther (2001) refer in the democracies around the world—rich and poor, Western and non-Western—there is growing evidence of low or declining public confidence in parties.

This decline of confidence is, in fact, not exclusive of political parties but ranges to several fundamental institutions of the democratic system, from parliaments to presidencies. This decline of confidence results from the fact that institutions are no longer viewed as defending the rights of those that have elected them, but as defending their own corporate interests or the interests of huge corporations and financial and economic powers. The big gap between the sets of incorporated beliefs actualized by bills of rights emitted by legal representatives and the present social practice associated to the frequent corruption scandals of important politicians have led to a wave of discredit and in some cases revolt towards political institutions.

The Charter of Fundamental Rights of the European Union (EU) defines the political, social and economic rights for EU citizens and residents into EU law. It was drafted by the European Convention and solemnly proclaimed on 7 December 2000 by the European Parliament, the Council of Ministers and the European Commission. However, its then legal status was uncertain and it did not have full legal effect until the entry of the Treaty of Lisbon on 1 December 2009.

The Charter contains some 54 articles divided into seven titles. The first six titles deal with substantive rights under the headings dignity, freedoms, equality, solidarity, citizens' rights and justice, while the last title deals with the interpretation and application of the Charter. Much of the Charter is based on the European Convention on Human Rights.

The first title, dignity, guarantees the right to life and prohibits torture, slavery, the death penalty, eugenic practices and human cloning.

The second title covers liberty, personal integrity, privacy, protection of personal data, marriage, thought, expression, assembly, education, work, property and asylum.

The third title covers equality before the law, prohibition of all discrimination, including on basis of disability, age and sexual orientation, cultural, religious and linguistic diversity, the rights of children and the elderly.

The fourth title covers social and workers' rights, including the right to fair working conditions, protection against unjustified dismissal, and access to health care, social and housing assistance.

The fifth title covers the rights of the EU citizens such as the right to vote in election to the European Parliament and to move freely within the EU. It also includes several administrative rights such as a right to good administration, to access documents and to petition the European Parliament.

The sixth title covers justice issues such as the right to an effective remedy, a fair trial, to the presumption of innocence, the principle of legality, non-retrospectivity and double jeopardy.

However, and ironically in 2013—the European year of the citizen—26 million Europeans were unemployed, integrating this number 5 million young people. From this total number, 500,000,000 Europeans are experiencing an acute economic crisis that has already got dramatic consequences on most southern countries.⁷

The global economic crisis caused by what is in fact a state of tyranny, a dictatorship, imposed by interests that are alien to those of the common people, but obey not to their representative institutions but to the big interests of huge financial markets and their obscure strategies, has started to introduce a state of incoherence between what we have been referring as the sets of assumptions and beliefs collectively incorporated and the effective social practice. In fact, some of the fundamental rights are also threatened by the so-called austerity measures which in practice have brought nothing but stagnation of economy, unemployment, poverty and social despair which, if they are not suspended, will lead to a significant social and civilizational step back. In the present framework of financial tyranny, the fundamentals of Europe have worked so hard to attain and that stand as a milestone of human civilizational development—concerning social and workers rights, protection

⁷ As the eurozone crisis deepens, media reports what are labeled “economic suicides More than 100 widows marched in Bologna to mark the “numerous deaths” of Italians driven to suicide because of the economic crisis. Now in its fifth year of recession, Greece has seen its suicide rate—once among the lowest in Europe—rise by more than 22% from 2009 to 2011. Other reports discern the same deadly, despairing trend in Spain and Ireland. According to statistics, the average rate of suicide in Portugal is six people a day.

against unjustified dismissal, health care, social assistance, education and the rights of children and specially of the elderly—are threatened and in the case of southern countries have already started to be significantly reduced.

This state of affairs has led to the lack of recognition and mistrust of fundamental institutions as the legal representatives in the defence of the people's fundamental rights, expectations and interests. Mistrusting or even rejecting them, the commons have elected the street as the locus of their political intervention.

41.3 The Street as Locus of Political Intervention

Concrete human actions do not take place in a homogeneous isotropic space, but in a space distinguished by qualitative differences that are mainly defined by the type of interactions carried out there. By interacting with the physical environment, the human being not only acknowledges her/his own corporeal identity consequently defining a consciousness of his/her own physical presence but also assumes himself as classifier of a reality whose elements are defined, given meaning and hierarchy by him.

The semantic individuality of construed spaces stands on a qualitative distinctness that is essentially defined by the functionality or functionalities assigned to them. Public and domestic spaces, ultimately conceived as objects, have always been defined according to the different actions that are supposed to take place there and according to the way people interact within those spaces with their bodies. This fact not only shapes their physical form but also determines the nature and form of the objects that populate them. When we reflect upon the semantic substance of lexical forms that designate public spaces such as “park”, “stadium”, “church” or when we think of those that define domestic spaces—“bedroom”, “kitchen”, “living room”, we realize that each of them is associated to the type of routines individuals are supposed to perform there and that these routines are responsible for the qualitative distinctness of these places defining their character and identity. These terms of everyday discourse serve to distinguish particular spaces. They correspond to a specific use of those spaces, and hence to a spatial practice that they express and constitute. As Lefebvre (1974) pointed out, the spatial practice of a society produces the society's spatial organisation and the spatial practice of a society is revealed through the deciphering of its space. In the design of spaces, the West prescribes a one-space, one-function design. This is typical in Europe wherein each component of an urban space has its own function such as the role of the building is to delimit the urban space, the role of the street will be to lead and the role of the square to assemble (Thiis-Evensen 1992).

Historically speaking, the purpose of streets was to carry pedestrians and facilitate movement and access, while at the same time encouraged interaction within the community (Litman 2003), allowing neighbours to meet and interact on their sidewalks and fostering economic activities such as shopping and consuming at sidewalk cafes. Given its role as a generative urban element (Lillibye 1996), streets define a city's urban landscape (Jacob 1961).

According to Augé's (1995) classification, streets, though they can be identified by a name or a number, could be referred to as non-places, because as it happens to other non-places: airports, train stations, etc., they have a transient nature, i.e. people just move along them in order to reach particular loci.

The space of the street is the object of legislation that imposes sets of rules to which either vehicles or pedestrians have to obey. According to those rules which the physical shaping of the street reflects, the space zone of pedestrians and that of vehicles is clearly divided into that of the "road" where the traffic moves and that of the sidewalks along which pedestrians move.

Perhaps due to this fact, the experience of freely walking along a road, watching the buildings raising high on each side is a strong liberating one.

Public spaces always offer the possibility of disappearing anonymously in the masses, but they also offer that of identifying with a group. Street demonstrations are a legitimate form of political action where the street march constitutes the core of the demonstration. As Fillieule (1997) refers, we define the street demonstration as any temporary occupation by a number of people of an open physical public place, which directly or indirectly includes the expression of political opinions.

Every demonstration's primary dimension is the expression of its participants' thoughts and feelings relatively to a particular topic or situation, generally through visual and verbal affirmation. But the dynamics of a demonstration also produces the cohesion and sense of group and togetherness in those that individually participate in them taking individual claims a step further and objectifying them collectively.

As Casquete (2006, p. 48) refers:

demonstrations are also an internal form of communication. In effect, to the extent that they provide participants with the sense of being engaged in a common cause with a large number of like-minded people who share similar feelings about an issue, mass gatherings also work as opportunities to cement a given social group.

The fact that individuals taking part in a demonstration share identical opinions and feelings relatively to a given situation gives rise to a mutual contagion of emotions producing what we could designate as a "collective *Innenwelt*". This is enhanced by the presence of semiotic objects such as appropriate chants, slogans, flags, banners and stereotyped movements where everybody makes the same gestures in the same circumstances reflecting this conformity of conduct and a conformity of thought.⁸

This conformity of thought is also reflected by the iconic elements present in all demonstrations: banners, posters, flags, etc.; through them one can immediately identify the nature of the protesters' motives, their claims and expectations.

Demonstrations in fact allow the development of a collective definition of disagreement or rejection relatively to a certain situation through symbolic forms of interaction. The objectifying of what is in fact the "sum" of states experienced by individual *Innenwelten* relatively to a given feature of the shared world. From this sharing of common experiences and common emotions, a form of collective consciousness is enhanced generating a sense of collective identity.

⁸ Durkheim (1912).

This chapter focuses on the role played by the street in the expression of the people's discontent and rejection relatively to the political options of their once presumed representatives, giving a brief perspective of about 30 years of Portuguese democracy in the present context of the crisis of the eurozone.

41.4 The Portuguese Case

41.4.1 *The 25th of April Revolution*

The 25th of April Revolution, or the *Revolução dos Cravos*, Carnation Revolution, was a bloodless coup which took place in Portugal in 1974, putting an end to a period of nearly 50 years of dictatorship and to many years of war in the African colonies.

At 12:25 am on the 25th of April 1974, the song, *Grândola, Vila Morena*,⁹ by Zeca Afonso, a folk anthem well known to young people and intellectuals, with lyrics extolling the virtues of brotherhood and equality, was played on Rádio Renascença:

Grândola, vila morena
Terra da fraternidade
O povo é quem mais ordena
Dentro de ti, ó cidade

It was the password for the revolutionary military movement that would overturn half a century of fascist rule in Portugal. At the sound of the agreed password, one of the young captains of the military movement, Captain Salgueira da Maia, left Santarém (50 miles north-east of Lisbon) with eight armoured cars and ten trucks, towards the capital. Other divisions under the command of the Movimento das Forças Armadas (MFA—the Armed Forces Movement, radicalised mid-rank officers, typically captains) were mobilised.

The military headquarters were occupied, the airport was closed, leading ministers were arrested and at 8 pm, the MFA announced that the regime had been deposed.

A bloodless coup had brought down Europe's oldest dictatorship. The streets, where for nearly 50 years no one had been allowed to demonstrate or even gather in a small number, were crowded with people. Thousands marched into Lisbon's city centre, holding red carnations, cheering the armed forces, brotherly interacting with the soldiers in whose rifle barrels carnations blossomed as a sign of peace and joy. It was a time for celebration (Fig. 41.2).

The streets of the capital on the 1st of May, 1974, were again crowded to celebrate Labour's Day, as this celebration was also forbidden by the old regime. Thousands and thousands of individuals spontaneously gathered in many cities, without

⁹ Grândola was by that time a small village in Alentejo.

Fig. 41.2 Peace and joy



Fig. 41.3 Celebrating the 1st of May, 1974, in Lisbon's streets



the influence of any partidary movements,¹⁰ to celebrate freedom and democracy (Figs. 41.3 and 41.4).

One year later, general elections took place, giving rise to a representative democracy that has characterised the political organisation of the country since then. This democracy is grounded on a constitution that is a guarantee of the individual's rights to freedom, equality and where the social state plays an essential role in the defence of the people's right to work, education and health assistance.

¹⁰ In fact, as political action was not allowed, potential political parties lived clandestinely.

Fig. 41.4 Cheering freedom in the 1st of May, 1974, holding banners and slogans



41.4.2 The Role of the Street in the Context of the Present Economic Crisis

As part of its process of social and economic development, in 1986, Portugal joined the European Economic Community (EEC) that later became the EU. In the following years, Portugal's economy progressed considerably as a result of EEC/EU structural and cohesion funds. Within the economic framework of the community, the country was viewed as particularly suited as a service provider and, due to the amenity of its climate and ecological diversity, very apt to act as a tourism resort. However, this option led to a total lack of investment in what were prior strategic economic trends such as fishing and fishing industry and agriculture. These options have in fact turned the country dependent on the importation of primary consumer goods.

The late 2000's global financial crisis brought economic disruption and an unsustainable debt. This led the country to negotiate in 2011 with the International Monetary Fund (IMF) and the EU, through the European Financial Stability Mechanism (EFSM), and the European Financial Stability Facility (EFSF), a loan to help the country stabilise its finances.

As it has happened in countries as Ireland or in southern countries as Spain and Greece, these loans were/are accompanied by severe measures of "austerity" that aim at reducing drastically the state expenses. This reduction always involves the cutting down of salaries in public services, reducing the number of those working in the state administration, the cutting down of pensions and the reduction of costs in fundamental areas as public health services, education and social security.

All these measures were/are accepted by Portuguese representatives, independently of the impact they would have in the economic and social tissue. The common citizen waits and looks for a position of its representatives, as the question (What are you waiting for?) addressed to the president of the Republic shows (Fig. 41.5) in the 2nd of March 2013 demonstration.

Not exactly understanding what was going on, the common citizen was suddenly taken by surprise when listening and reading economists and politicians stating that

Fig. 41.5 March 2013—asking for presidential initiative



Fig. 41.6 The street is ours—a slogan in September 2012 demonstration



she/he was responsible for the crisis, because they had lived above the possible standards. This argument served as the fundamental basis for additional taxing and salaries reduction. Not being able to find an adequate answer in their representative institutions, people turned to the street as the only possible locus of expression of political dissatisfaction (Fig. 41.6).

Though several demonstrations have taken place, the most representative moments so far are the 15th of September 2012 demonstrations and the 2nd of March 2013 demonstrations (1.5 million). Both took place not only in the capital, Lisbon, but also in many cities throughout the country involving hundreds of thousands (Figs. 41.7 and 41.8).

Most of the demonstrations that have taken place since the implementation of the austerity measures have gathered people from all ages—young unemployed people, unemployed workers, pensionists—who participate in the demonstrations sometimes with the whole family, in a pacific but very expressive claim for their rights (Fig. 41.9).

The caricature repeated represents *Zé Povinho*, the popular name for the common people

Feeling their fundamental constitutional rights menaced, Portuguese people have turned to the “spirit of the 25th of April Revolution” and to its primarily iconic, verbal, musical semiotic elements (Fig. 41.10):

Grândola Vila Morena started to be sung in all demonstrations, as well as word statements taken from its lyrics as: *O Povo é quem mais ordena* (Fig. 41.11).

Fig. 41.7 Lisbon, 15th of September, 2012
(estimated number 800,000)



Fig. 41.8 Lisbon, 2nd of March, 2013 (estimated number 500,000)



Fig. 41.9 Demonstration—
2nd of March, 2013



Fig. 41.10 15th of September—holding a carnation and attempting a dialogue with the order forces



Fig. 41.11 *O povo é quem mais ordena*—a line from the lyrics of Grândola



An interesting fact to notice is that some of the specific semiotic elements that characterised the Portuguese Revolution have become meaningful for people belonging to distinct contexts and have been adopted in different countries as a symbol of resistance, hope and struggle for fundamental human rights. As it is, for instance, the case of the song *Grândola Vila Morena* sung in Madrid in 2013 as a claim of thousands for their essential rights.

41.5 Conclusions

In the context of a crisis where the values that sustain a given society are at risk and where institutions seem no longer to correspond to the people's beliefs and expectations, the street emerges as a space of freedom, of solidarity and of collective expression whose potential power for introducing change cannot be underestimated.

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25th of April photographs available

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Manifestação de 15 de Setembro Photographs available:

https://www.google.pt/search?q=manifesta%C3%A7%C3%A3o%20em%2015%20setembro%202012&psj=1&bav=on.2,or.r_qf.&biw=1024&bih=589&bvm=pv.xjs.s.en_US.NyLNrjc7wJY.O&wrapid=tlif137468495729610&um=1&ie=UTF-8&hl=en&tbm=isch&source=og&sa=N&tab=wi&ei=kQfwUcLUBdOxhAeL-44CIBA

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Part VI
Cybernetics, Systems, and Semiotics

Chapter 42

Sign Functions in Natural and Artificial Systems

Peter Cariani

42.1 Introduction

Semiotics, in its many forms, presents a rich and multifaceted framework for comprehending many different kinds of natural and artificial processes. A naturalistic framework is presented for explaining how signs realize basic informational functions in biological organisms, social organizations, and artificial devices. A theory of functional semiotics attempts to answer basic questions about organization and semiotic function, such as what properties must material systems have in order to support signs and sign functions? How can semiotic processes in natural, social, and artificial worlds be distinguished from nonsemiotic processes? Such a theory also seeks to address more complex theoretical issues: What kinds of semiotic functions are possible? What are the organizational requisites for meaning and purpose? Are there neurosemiotic requisites conscious awareness?

This chapter outlines a broad theory of sign use in natural and artificial systems that was developed over several decades within the context of theoretical biology, cybernetics, systems theory, biosemiotics, and neuroscience (Cariani 1989, 2001a, b, 2011).

It begins with a survey of different approaches to semiosis in nature. General functional properties of and operations on signs are then discussed, beginning with the use of signs in computers and formal systems followed by a semiotic description of the operational structure of scientific models that illustrates sign-mediated syntax, semantic, and pragmatic relations in observers.

The framework is then expanded to cover percept-action loops in animals and robots by including sign-directed action on the external world. Simple percept-action loops can be elaborated by incorporating sign mechanisms that permit flexible mappings between percepts and actions. These coordinative mechanisms include memory mechanisms, which allow actions to be contingent on past percepts, and

P. Cariani (✉)
Hearing Research Center, Boston University, 44 Cummington Mall, Boston, MA 02115, USA
629 Watertown St., Newton, MA 02460, USA
e-mail: cariani@bu.edu

multidimensional representation systems, which allow for complex conjunctions (combinations and sequences) of percepts, concepts, and actions to be employed.

Goals can be incorporated in percept-action systems to enable purposive behavior. Once internal goals, with their associated evaluative operations and steering mechanisms, are added, percept-action systems become purposive, cybernetic systems that pursue their own embedded goals. By virtue of internal goals and capacity for autonomous action in their pursuit, these systems acquire a degree of *agency*.

Adaptive modifications of semiotic operations change internal organizations to better achieve goals through switching of existing sign mappings and physical self-construction of new semiotic relations. Communication becomes possible through evolved sign conventions between such purposive, adaptive systems. Communication then enables the sharing of meanings and, with it, cooperation toward shared goals. All of the interactions and transactions of these various systems can be described in terms of signs and operations on them.

The last section considers biological brains in terms of these functional schemes and biological brains. If mind is regarded as the functional, informational organization of the brain, then an elaborated neurosemiotic framework that deals in terms of neural codes and signal processing operations becomes in effect a general semiotics of psychological process and mental function. Additional neurophenomenological bridge laws beyond this may be needed in order to account for conscious states and their experiential contents.

42.2 Modes of Semiotic Discourse

Several different conceptual frameworks coexist in contemporary discourses about semiotics, information, language, and knowledge that reflect fundamentally different perspectives and concerns. These include functional, epistemological, phenomenological, and ontological-structural perspectives in which signs are distinguished, respectively, by their uses, empirical appearances, experiential correlates, and sets of alternative system states. This chapter focuses mainly on functional and epistemological approaches.

Functional Semiotics Functional semiotics examines how signs work—how systems are organized such that signs can achieve informational functions. In engineering terms, this concerns what constitute “the signals of a system,” i.e., how alternative sets of signals are formed, transmitted, transformed, stored, and used to carry out useful functions. Functional semiotic theories provide general frameworks for understanding signs and signals that can be applied to organisms, nervous systems, social organizations, and artificial devices to describe their internal operations and informational transactions with their surrounds.

Epistemological Perspectives Epistemologically oriented semiotics concerns the predictive meanings of signs for observers—how signs inform an observer of current and future world states and events. From the epistemic perspective, information

involves “uncertainty reduction” on the observer’s part (Ashby 1956). Over the arc of science, the role symbols play in the scientific models have become explicated (Bridgman 1936; Cassirer 1955; van Fraassen 1980; von Glasersfeld 2007; Hertz 1894; Murdoch 1987).

Phenomenally Oriented Semiotics A phenomenally oriented semiotics concerns the experiential aspects of signs—how signs are related to the contents of our conscious awareness (Merleau-Ponty 1963).

Ontologically Oriented Semiotics One can ask, in what senses signs might be thought to exist independently of observers, such that a sign need not be either observed or used in order to be considered a sign. For logicists, signs and meanings exist in possible worlds, not in the heads of embodied users. For platonic realists, signs are ideal forms; for computationalists, information is algorithmic complexity. Pansemiotics assumes that all that exist have a semiotic aspect, such that a “semiosphere” is not distinguished from nonsemiotic realms.

Each of these approaches to semiotics has its own mode of explanation. Functional semiotics trades in informational organizations, operations, and mechanisms, epistemological semiotics in operationalempirical predictions of intersubjectively observable phenomena, phenomenal semiotics in direct experience, and ontological semiotics in postulated world metaphors (Pepper 1942). The approaches complement each other, and serve different explanatory purposes, such that no one approach necessarily renders the others invalid.

42.3 Sign Functions

Signs play several distinct functional roles in organisms and artificial devices: communication, coordination, construction, memory, analysis (mapping, representing, recognizing, and analyzing), and prediction (objects, situations, and events).

These functionalities of signs can be grouped under the rubrics of *construction*, *coordination*, and *communication*. First, signs guide the construction, maintenance, and reproduction of complex structural organizations, from living organisms to human institutions and societies. Second, in both nervous systems of organisms and control systems of robots, signs and signals provide the informational frameworks for appropriate, effective action. Third, in natural societies and artificial networks, signs and signals permit communication of messages and coordination of behavior.

Sign-Mediated Communication Human written and spoken language is the most obvious use of signs, where strings of phonetic and lexical symbols convey information between human senders and receivers (Miller 1951; Cherry 1966). The broad fields of linguistics and zoosemiotics deal with the specific sign structures, mechanisms, and functions that involve human and animal communication. In humans, animals, and machines, communicative sign systems permit guidance of action, coordination of behavior, and sharing of information about the environment and the

internal mental states of others. In addition to communicating explicit messages, signs can also be used evocatively, as in nonverbal communication and the arts, to express and induce emotional states by directly modulating internal mental states of their recipient interpreters (Ecco 1976; Langer 1967). The purpose of evocative sign use is to change experience rather than to inform.

Sign-Guided Physical Construction Signs mediate the formation of complex biological and social organizations. At the core of every living organism is a sign-based, genetic code that guides its formative development and ongoing self-construction and regulation (Barbieri 2003, 2008; Emmeche 1994; Hoffmeyer 1996, 2007; Pattee 2008, 2012b). Likewise, for fabricated artefacts, sign-encoded plans guide design and construction processes. In social systems, laws, currencies, and plans encoded in signs play similar roles in organizing and coordinating action, from daily to trans-generational timescales. In each realm, the construction process employs explicit signs to guide sequences of nonsemiotic, physical processes that produce end products. In self-modifying systems, the end product is a change in the producing organization itself.

Sign-Mediated Coordination in Percept-Action Systems All sensorimotor systems, in animals and robots, involve coordinating perception and action, such that appropriate actions are taken in light of current sensory inputs. At the core of all sensorimotor loops in animals exist neural codes in which sensory distinctions, internal coordinative states, and motor commands are systematically encoded via different patterns of neural activity. Analogously, in artificial robotic systems, sensors produce internal signals that feed into a coordinative decision mechanism, that determines which action will be taken, and issues effector commands that carry out physical actions.

Representation and Concept Construction Signs are used to construct systematic internal maps that can be used for sensory analysis, pattern recognition, anticipatory prediction, deliberation and planning, and motor programs that prepare for, choose, and enact prospective behavior. Sensory attributes, features, and concepts encoded in systems of neural signs support combinatoric representational systems whose compositionality provides enormous descriptive differentiating power (e.g., “yellow boat”) through the construction of new concepts.¹

Value and Purpose In natural, artificial, and social systems, signs are used to implement internal goal-seeking control systems that steer behavior. In social systems, money systems use symbolic tokens of exchange (currencies) for sign-mediated systems of valuation. The core of classical cybernetics was concerned with how systems are organized to reliably achieve internal purposes (Ashby 1956; de Latil 1956; Rosenblueth and Wiener 1950; Rosenblueth et al. 1943).

¹ We use the term “representation” advisedly, despite considerable unwanted implicit realist-referentialist philosophical baggage it carries from some sectors of cognitive science and philosophy (Bickhard and Terveen 1995). It is used here as in the neurosciences as a systematic set of distinctions, without any assumptions about what is being represented or signified, or the veridicality of the representation.

Memory Memory entails the persistence of signs over time, such that situations and events encoded in signs at an earlier time can be recalled later. Genetic information is stored in a molecular memory (DNA) that can be read out at different times over the life span of the organism for purposes of ongoing self-regulation, repair, and reproduction. Memory in nervous systems allows past events to provide context for interpreting current ones, and written signs permit cultural memories to influence new generations.

Prediction Anticipatory-predictive systems use signs to predict future events. In animals, the storage of neural information in long-term memory serves as a guide for prospective action. “The purpose of remembering the past is to anticipate the future.”² Organisms and machines use sign-encoded past experience to anticipate likely future consequences of similar events occurring in the present and the differential effects of alternate courses of action.

Semiotic systems thus play diverse critical functional roles in natural, social, and artificial worlds. Organisms utilize signs on several levels: genetic codes that guide the construction and maintenance of the body, molecular combinatorics that create immune system diversity, and neuronal signaling systems that steer and implement complex behaviors. Nervous systems in turn permit representational and communication systems between individuals that enable complex ongoing social coordinations that can extend far beyond individual life spans. In artificial systems, signals carry out a host of informational functions: encoding and processing of sensory information, pattern analysis, calculation, information storage and retrieval, anticipatory prediction, deliberation, communications, and control of actions.

42.4 Semiotic Systems as Modes of Organization

Traditionally, semiotics emerged from the study of human sign systems for communication, where language use and meaning making were assumed to be uniquely human capabilities. Zoosemiotics greatly widened the horizons to encompass animal communication, and biosemiotics further expands the scope of semiotics to include genetic sign systems at the core of life itself. In this wider world of signs, human language and meaning making becomes a very special case in the universe that constitutes the semiosphere (Hoffmeyer 1996).

Fundamental questions for this wider, naturalized semiotics, therefore, must focus first on how semiotic processes in the natural world can be distinguished from nonsemiotic processes. What natural systems can reasonably be called semiotic? Living systems, by virtue of their use of DNA generally qualify as semiotic, whereas vanishingly few, if any, nonliving natural systems appear to lend themselves to descriptions that involve signs and sign functions. A system can be regarded as semiotic if sign distinctions can be identified that switch its internal state or behavior.

² Inscription seen on an antinuclear poster produced by Hard Rain, Cambridge, MA, c. 1978.

This means it must have distinguishable states that can serve as sign distinctions and some means by which different sign states switch the internal organization of the system, i.e., interpret the sign, to alter subsequent behavior. In operational terms, one is justified in describing a particular natural system in semiotic terms, be it organism, brain, society, or robot, when one can also specify concretely how one would directly observe the sign distinctions, interpretive mechanisms, and their consequences.

We propose that signs be considered as configurational, organizational distinctions that make a significant difference in the subsequent organization and behavior of a system. Sign systems entail a particular kind of organization embedded (and “embodied”) in a material substrate. For present purposes, the configurational differences that make functional differences will be called sign distinctions or sign states, whereas the vehicles by which the distinctions are physically realized will be called, more or less interchangeably, signs, symbols, or signals.

The perspective of hylomorphism, articulated by Aristotle in *De Anima* (McKeon 1941), is an extremely useful philosophical vantage point for considering the functional possibilities of organized matter (Favareau 2008; Graham 1987; Modrak 1987). In the hylomorphic view, *living systems*, *semiotic systems*, *purposive systems*, *adaptive systems*, and even *conscious systems* derive their respective properties, not from special characteristics of their constituent material, but from their particular types of organization. For life, this view seems quite intuitive:

If we equate form with organization, which is not far from Aristotle’s intention), his theory states in effect that living matter is matter whose organization can perpetuate and extend itself during growth and reproduction and throughout cycles of material renewal. It perpetuates and extends itself by imparting its organization to matter possessing the potentiality of being so organized. (Hall 1969, vol. 1, p. 112)

We take the form of organization that defines life to be *autopoiesis*, i.e., a network of mutually supporting self-production processes (Maturana 1981; Mingers 1995).³

Different kinds of organizations give rise to distinct characteristic properties. Living systems autopoietically regenerate their components and organizations, semiotic systems switch behavior contingent on particular configurations, purposive systems steer their behavior to best attain embedded goals, and adaptive systems modify their internal structure in order to better achieve particular goals. Thus, the organizational criteria for living, semiotic, and purposive systems are independent of one another, and semiotic systems thus need not be living, purposive, or adaptive in order to utilize signs.

A salient example is a digital electronic computer. Although the computer in its design and fabrication is wholly a by-product of living systems, nevertheless it can be considered, purely apart from its human origins, as a purely syntactic sign-manipulating engine that, by itself, is neither living, purposive, nor adaptive.

³ The general concept, from theoretical biology, is related to self-reproducing automata (von Neumann 1948), metabolism-repair systems (Rosen 1991), autocatalytic sets, hypercycles, and hyper-sets. Regenerative networks also characterize brains (Cariani 2000b, 2001b) and social systems (Luhmann 2013), pp. 70–83.

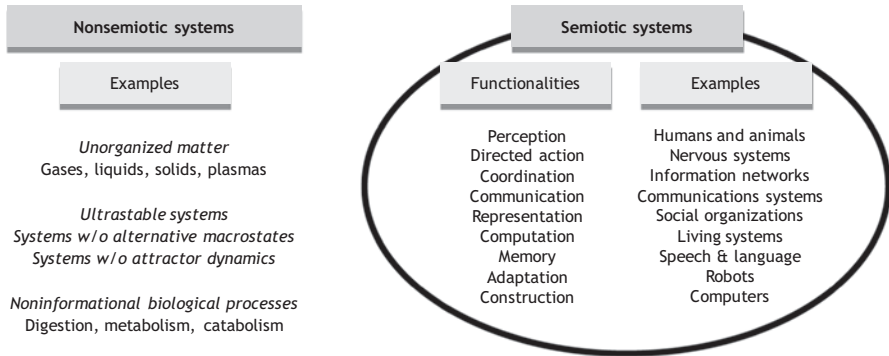


Fig. 42.1 Semiotic and nonsemiotic systems. Systems can be divided by whether their organizational structures and dynamics support signs and sign functions. Basic functionalities of signs, signals, and symbols in semiotic systems. Examples include natural, social, and artificial sign-using systems

This perspective presented here thus differs from the idea, held by many biosemioticians, that semiosis is necessarily coextensive with and dependent on life (Kull et al. 2010). In our view the special form of organization that is characteristic of semiotic systems uses different, configurational states to switch system behavior. Although all sign systems are appropriately organized material systems, relatively few material systems are semiotic systems because they do not have internal organizations capable of supporting signs and sign functions (Fig. 42.1).

42.5 Semiotics and Information

The term “information” has a very wide range of common meanings (Gleick 2011), many of which embody concepts from semiotics (Nöth 1990), as well as many others that do not. Concepts of genetic information in biology and information processing in psychology have long histories. The definition and role of information is a topic of ongoing discussion and debate in the biosemiotics community (Barbieri 2013, 2007; Brier and Joslyn 2013; Marcos 2011; Pattee 2013).

The semiotic, configuration-driven switching processes discussed here can be regarded as “informational processes” or “informational operations,” if one conceives of “information” in terms of alternative internal functional states that are interpreted or “read out” by the system. The alternative-states functional usage is the sense of information in which one can meaningfully talk about genetic information or information stored in a computer, as specified distinctions among sets of alternatives that have functional relevance (meaning) for those systems.

Although Shannon's information theory deals only with the reliable transmission of sign states (signals), where the "read-out" process is wholly syntactic and devoid of semantic or pragmatic meaning, the framework of signal transmission and reception is still a functional one. Other early, contemporaneous approaches to information theory dealt with meaning in terms of changes in internal representational states, purposes, and/or behavioral consequences (Cherry 1966; Mackay 1969; Miller 1951).

The notion of alternative, accessible states also underlies statistical mechanical conceptions that quantify the amount of information in a physical system in terms of negative entropy (the negative sum of the logarithms of the probabilities of alternative states). The similarities and differences between functional and physical conceptions of information were only slowly worked out, and are still being debated, in physics, cybernetics, information theory, and engineering (Barbieri 2013; Gleick 2011; Marcos 2011). It would seem that the main difference between functional and physical information is whether the alternative states in the description are defined functionally, in terms of some interpretive, "read-out" system versus whether the consequent state transitions are regarded as purely physical alternatives.

One way to reconcile functional and physical accounts is to recognize that although in principle every system can be described in terms of the physical dynamics of its parts, some systems that would be recognized as utilizing configuration dependent, sign-based operations can also be described in terms of higher-level functional states and operations on them that do not explicitly refer to lower-level physical laws and rate-dependent dynamics. Thus, a physics of symbols based on alternative available modes of description is possible that can address questions such as "how does a molecule become a message?," what makes the genetic code a code?, why do discrete symbol strings lie at the heart of all living systems?, and what are the physical requisites of memory systems? (Pattee 1972,2008, 2012b, 2013).

In this view, there is a complementarity between functional "linguistic" descriptions and physical "dynamic" descriptions—they illuminate different aspects of a system under consideration. For example, the operation of a digital computer can be described both in terms of rule-governed operations on its higher-level, functional, 0|1 machine states, and in terms of law-governed microdynamics of its physical hardware. Likewise, a strand of DNA can be described symbolically, as an informational nucleotide sequence that is read out in some particular way to switch the behavior of a cell, or in terms of its noninformational molecular structure and dynamics.

This multiple-descriptions perspective differs from the view, still dominant in much of artificial intelligence, computer science, linguistics, and cognitive science, that all significant matters can be described computationally, in terms of rules operating on discrete symbols, such that the dynamics become largely irrelevant. Alternately, there are those who reject this application of the computer metaphor to mind and brain (Carello et al. 1984) in favor of purely dynamical accounts (Juarrero 1999; van Gelder and Port 1995).

The computationalist, symbols-and-rules approach presumes digital-sequential codes, whereas dynamical systems theorists strongly favor analog, continuous time mechanisms (Michaels and Carello 1981). However, natural and artificial systems appear to utilize both analog and digital signals, albeit for different functions. Discrete (digital) and continuous (analog) codes have different strengths and weaknesses: digital codes enable combinatorial expressive power and resistance to noise (von Neumann 1958), whereas iconic, analog codes degrade gracefully under stress and do not impose artificial feature categories in their representations (see also discussions of iconicity in Ecco 1976; Nöth 1990). Codes can also be of mixed digital-analog composition. In the neural realm, temporal, interspike interval codes that subserve periodicity perception (pitch and cutaneous flutter vibration) and sound localization are mixtures of analog and digital aspects, because they use the continuously variable relative timings of discrete pulsatile action potentials to form sensory representations (Cariani 1995, 1999).

Related also to functional conceptions of information is the epistemic sense of how an observed event or knowledge of a piece of information changes its observer. The arrival of a message, regardless of how many other possible alternative messages could have been sent and received, bears no information for its recipient if its contents were completely predictable. In terms of an observer, does the message (or measurement) reduce the observer's uncertainty regarding the possible (observable) states of a system (Ashby 1956)? When a message is received or measurement made, many possible outcomes collapse to one observed one, and this reduction of uncertainty from many to one is the measure of information gained.⁴

42.6 Basic Semiotic Operations

The following sections outline the semiotic organizations of various basic kinds of systems, ranging from computers and formal systems to scientific models, to simple percept-action systems, and to adaptive systems that modify their semiotic functionalities. First, basic semiotic relations and operations are described, then simple systems are considered, followed by those with increasing degrees of adaptive self-modification and self-construction.

The operational structure of the systems to be discussed consists of a few kinds of primitive semiotic operations that involve transformations of sign states and processes that lie outside the sign system. The proposed operations fit neatly into the semiotic triad of Charles Morris, which invokes three different complementary aspects of sign function: syntactics, semantics, and pragmatics.

...pragmatics is that portion of the semiotic which deals with the origin, uses, and effects of signs within the behavior in which they occur; semantics deals with the signification of

⁴ This epistemic sense, which is agnostic regarding the world distal to measuring devices, is very different from the realist-referentialist sense of information as true knowledge about *the world as it really is*, e.g., Dretske 1981, i.e. knowledge that exists independently of observers and observations.

		OUTPUT TYPE			
INPUT TYPE		Sign distinction	Physical state	PRAGMATIC OPERATION	EFFECT ON SYSTEM
Sign distinction	Computation <i>(syntactics)</i>	$S \rightarrow \boxed{C} \rightarrow S$	Action <i>(semantics)</i>	Evaluation $P \rightarrow \boxed{E} \rightarrow S$	Measurement directed at changing semiotic relations $P \rightarrow \boxed{M} \rightarrow S \rightarrow \Delta M, \Delta C, \Delta A$
			$S \rightarrow \boxed{A} \rightarrow P$	Switching $S \rightarrow \Delta C$	
Physical state	Measurement <i>(semantics)</i>	$P \rightarrow \boxed{M} \rightarrow S$	Physical interaction <i>(nonsemiotic)</i>	Construction $S \rightarrow \boxed{C}_s \rightarrow$	Sign-directed action that physically modifies signs and/or sign operations $S \rightarrow \boxed{A} \rightarrow P \rightarrow \Delta M, \Delta C, \Delta A$
			$P \rightarrow \boxed{I} \rightarrow P$		

Fig. 42.2 Semiotic operational primitives and self-modification processes. *Left.* Basic semiotic operations that mediate between signs and the world outside the semiotic system. The box icons containing letters C, A, M, and I, respectively, represent operations of computation, action, measurement, and nonsemiotic physical interaction that are used in figures throughout this chapter. *Right.* Basic pragmatic operations involved in adaptive modification of functional organization of percept-action systems (Figs. 42.8 and 42.9)

signs in all modes of signifying; syntactics deals with combinations of signs without regard to their specific significations or their relation to the behavior in which they occur. When so conceived, pragmatics, semantics, and syntactics, are all interpretable within a behaviorally oriented semiotic, syntactics studying the ways in which signs are combined, semantics studying the signification of signs, and so the interpretant behavior without which there is no signification, pragmatics studying the origin, uses, and effects of signs within the total behavior of the interpretants of signs. The difference does not lie in the presence or absence of behavior but in the sector of behavior under consideration. The full account of signs will involve all three considerations. (Morris 1946), p. 219. See also (Nöth 1990)

Syntactic transformations perform operations on signs irrespective of their linkages to the external world or their purposes. Semantic operations determine relations between signs and the world outside the system. Pragmatic operations determine how signs are used by the system to achieve system goals.⁵

Several basic types of semiotic transactions form the basic functionalities of percept-action systems (Fig. 42.2). *Computations* are syntactic, rule-governed operations that map sign states to other sign states. *Measurements* are operations that involve the free interaction of a measuring device (sensor) with the external world that produce one of several possible signs (“pointer readings”) that are associated with different measurement outcomes. *Actions* here are sign-directed operations

⁵ There are some substantial differences between Morrisian and Peircian semiotics in their descriptions of sign relations (see Brier 2008; Brier and Joslyn 2013; Ecco 1976; Nöth 1990; Queiroz et al. 2011; Vehkavaara 2008) for discussions. Although Pierce and Morris were both pragmatists—C. S. Pierce founded the movement—Peircian theory with its triad of signifier, referent, and interpretant is more compatible with realist ontologies, whereas the Morrisian triad is more compatible with epistemologies that are ontologically agnostic. These epistemological/ontological splits parallel pragmatist/realist debates in philosophy of science (van Fraassen 1980; Murdoch 1987).

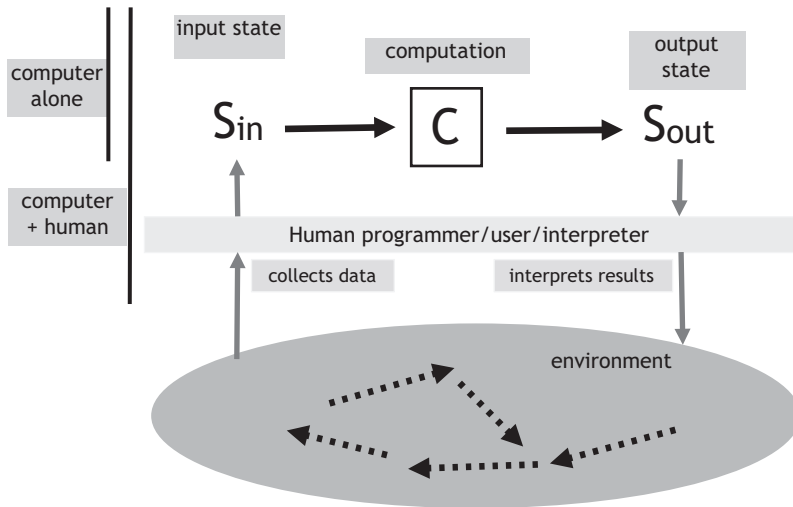


Fig. 42.3 Formal-computational systems. Left hand side, outer bracket. Functional boundaries of an isolated computer. Operational structure of a purely syntactic engine such as a computer. The computation operation deterministically maps input sign states (S_{in}) to output sign states (S_{out}). The symbolic input and output states have no causal relationship to the external world. *Vertical bars*: Functional boundaries of an isolated computer and a human–computer combination

that determine the behavior of an effector, which result in nonsemiotic physical consequences.⁶ Using these basic operations, it is possible to outline the core functional organization of many different kinds of natural and artificial semiotic systems, such as living organisms, computers, scientific models, animals and robots, and adaptive and evolutionary systems.⁷

42.7 Purely Syntactic Systems: Computers and Formal Systems

The simplest semiotic systems are purely syntactic systems whose behavior can be described completely in terms of sign states and determinate transformations between them. Within this semiotic framework, the basic semiotic operation that reliably maps input sign states to output sign states is called “computation.” A purely syntactic system is one that consists only of computations on sign states (Fig. 42.3). Uninterpreted formal systems and computers are purely syntactic systems, in that their operation relies solely on applying rules to sign types and comparing sign

⁶ For example, a switch that actuates a motor opens a drawbridge, the latter physical motions being nonsemiotic consequences of the switch sign state.

⁷ Analogous attempts have been made from within artificial intelligence and cognitive science frameworks to ground language meaning in the semiotics of percept-action cycles (Roy 2005).

types. Digital and analog computers are purely syntactic engines to the extent that they reliably map input states to output states, such that the same input state always produces the same output state. By their design, computers operate in an ultrareliable manner that emulates the error-free behavior of a formal procedure, such that their behaviors are formally isomorphic to deterministic finite state automata.

Purely syntactic systems, such as isolated computers, have no linkages to the world outside the system; their internal sign states have no inherent semantics and they operate entirely on meaningless symbols. Formal systems and computers by themselves thus are not informationally connected to the world outside the semiotic system. As a consequence, there are no causal linkages between their internal states and the world, such that their internal sign states have no external semantics of their own. Thus, nothing is learned about the world through computation alone. What computation tells us are the consequences of particular specified rules on sign systems.

Although computers can be considered apart from their human designers, programmers, and users, typically humans choose the inputs and computations to be performed, interpret the computational results, and take whatever appropriate physical action is needed. Computer programs are typically run with some external semantics in the user's mind (e.g., what the sign states in the computer are meant to "represent"). In this larger human-machine system, the human provides nonarbitrary semantic linkages between the external world and the computer's internal sign states.

Depending upon where one puts the locus of decision-making control, one can see the human as providing the computer with sensors and effectors that causally connect the machine directly to the world, or alternately, one can see the computer as providing the human with extended computational, coordinative, deliberative faculties for determining which actions to take in particular circumstances.

42.8 Scientific Models as Perceptual-Predictive Systems

Predictive models can be constructed if measurement operations are combined with computations. Perhaps, the clearest explications of the semiotics of perception and anticipatory prediction can be found in discussions of the formal, operational structure of scientific predictive models.⁸ Because formal predictive models rely on measurements that produce signs ("pointer readings") and predictive algorithms that utilize formal procedures on sign states, the entire process of making a prediction

⁸ Nowhere has this operational structure, which encompasses the roles of symbols, measurements, and mathematical computations, been more self-consciously and rigorously contemplated than in the late-nineteenth- and early-twentieth-century physics. Operationalist and realist accounts of scientific method contended, culminating in debates over the meaning of quantum mechanics (Murdoch 1987; van Fraassen 1980; Bridgman 1936). Parallel debates raged in the foundations of mathematics (Cariani 2012b).

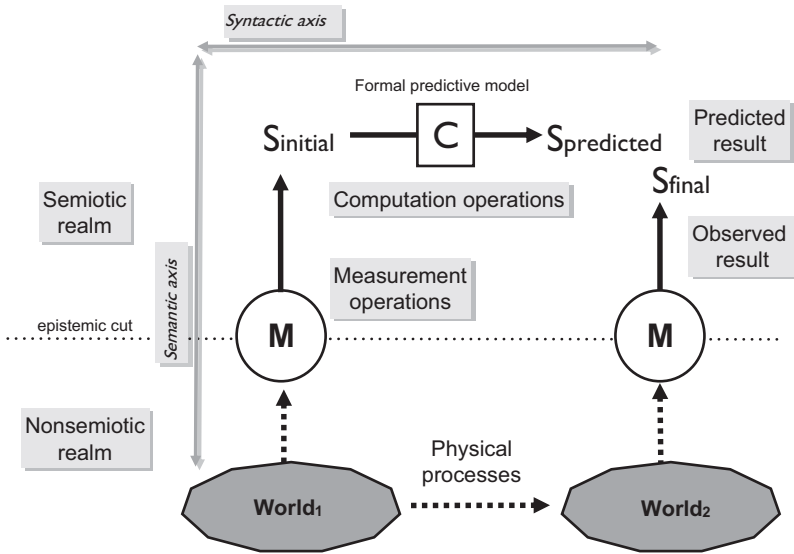


Fig. 42.4 Operational, semiotic structure of predictive scientific models. The Hertzian commutation diagram. Measuring devices interact with the external world to produce sign states ($S_{initial}$) that become the initial conditions of the computations (C) that produce predicted outcome sign states ($S_{predicted}$) for other subsequent measurements S_{final} . The predictive model is successful when predicted result $S_{predicted}$ matches observed result S_{final} . The measuring devices determine relations of sign states to the external world (external semantics), while computational transformations determine relations of sign states to each other (syntactics)

from the results of a measurement is entirely explicit and well-specified in terms of signs and operations on them.

42.8.1 The Hertzian Commutation Diagram

The basic operational structure of scientific models was explicated by Heinrich Hertz near the close of the nineteenth century (Fig. 42.4). Here, an observer makes a measurement that produces symbols, “pointer readings,” that become the initial conditions for a formal predictive model. Using the algorithm that implements the model, the observer then computes the predicted observed state of the system under observation. A second measurement is made and compared to the prediction. When the two sets of symbols agree, “the image of the consequent” is congruent with the “consequence of the image,” and the model has made a successful prediction.

Mathematicians and physicists were first to gain clear awareness of this symbolic character of their basic implements. The new ideal of knowledge, to which this whole development points, was brilliantly formulated by Heinrich Hertz in the introduction to *Principles of Mechanics*. He declares that the most pressing and important function of our natural science is to be able to foresee future experience—and he goes on to describe the method by which

science derives the future from the past: We make ‘inner fictions or symbols’ of outward objects, and these symbols are so constituted that the necessary consequences of the images are always images of the necessary consequences of the imaged objects. (Cassirer 1955, p. 75)

Hertz goes on to say in his introduction that further agreement with the structure of the world is not necessary for purposes of prediction, and in any case there is no way to know about the world beyond the measuring devices except through such predictive agreements between images (symbols; Hertz 1894).

The measuring devices used determine the observables of the model, its categories, which in turn form the dimensional structure of the model (which is why all measured quantities in science are described in terms of a numerical value accompanied by a dimensional type, “units” (Bridgman 1931). Because the measuring devices employed determine the model’s categories, their judicious choice is absolutely crucial to predictive success.⁹

A detailed and extensive formal analysis of modeling relations that further drew out its fundamental epistemological and systems-theoretic implications can be found in the work of theoretical biologist Rosen (1985, 1991).

42.8.2 *Semiotics of Scientific Modeling Relations*

Hertzian modeling relations bear semantic relations. Measurements realize semantic operations by linking particular world situations and events to internal sign states (more precisely, these are linkages between joint sensor-world states and internal sign states). The measuring devices causally connect internal signs to the world outside the model, thereby fixing their external semantics. Without physical measuring devices and measurements, there can be no “symbol grounding” or perceptual transactions with the material world (*contra* Harnad 1990).

Computations realize purely syntactic operations by deterministically linking the initial sign states to final, predictive sign states. Once the initial computational states are specified, the rules of the formal predictive model take over and operate on the sign types to produce predictions.

Finally, there are pragmatic relations between the symbol-states and the observer’s purposes, i.e., to what ends or goals does the model prediction benefit? The comparison of the prediction with the measurement is an evaluative operation that then guides subsequent action. If the model (measurements + predictive algorithm) does not succeed in predicting the subsequent measurement, then either the predictive algorithm or the measurements (model observables) will need to be modified in some way (modification process not depicted in Fig. 42.4).

⁹ While most attention has been paid to the formal parts of the modeling relation, the operational description of a scientific experiment also includes tacit physical actions that are only incompletely described (e.g., materials, skills, and work needed), that are needed to build measuring devices and set up experimental conditions (“preparing the system”).

The modeling relation is perhaps the clearest demonstration that the three semiotic relations (syntactics, semantics, and pragmatics) and their corresponding operations (computation, measurement, evaluation) are complementary aspects of signs, and therefore, irreducible. One cannot replace semantics with syntactics (computations cannot completely supplant measurements, computer modeling cannot completely replace empirical science). Pragmatic valuations cannot supplant empirical measurements (semantics). Desires (pragmatic goals, what one seeks to predict) cannot be provided by either measurement or computation.

The three semiotic aspects correspond to three complementary types of truths: analytical truths that can be verified by means of computational, syntactic operations, empirical truths that can be ascertained by means of measurements, which are semantic operations, and pragmatic truths, or truths of efficacy that can only be assessed by evaluation operations that are relative to goals. The specification of how a proposition is to be evaluated (by formal procedures, empirical tests, or effectiveness assessments) determines the nature of the “truth” it expresses.¹⁰

Thus, logic primarily focuses on analytical truths that are necessary consequences of syntactic, sign conventions. Science primarily focuses on empirical truths that reveal the relational structure of the external world through appearances of measurement-generated signs. The fine arts and the practical arts (engineering, medicine) focus respectively on uncovering pragmatic truths that show how particular aesthetic and technical goals can be attained.¹¹

42.8.3 *Model State–Transition Structure and the Epistemic Cut*

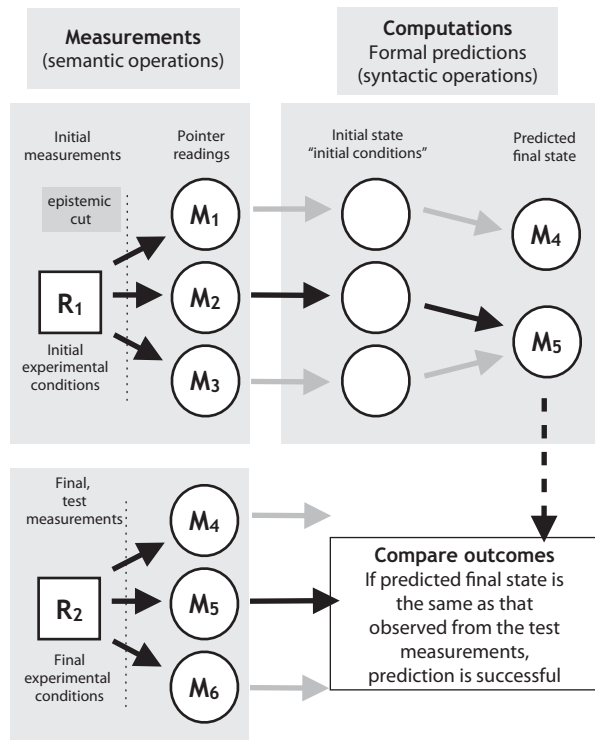
The measurement problem in physics, which was brought on by the measurement-dependent nature of quantum mechanical phenomena, involved arguments over where one draws the boundaries between the observer and the observed world—the epistemic cut (Barbieri 2013; Pattee 2012b, 2013). Equivalently, this is the boundary where ill-defined material processes distal to the measuring devices end and explicit, unambiguous symbols and formal operations on them begin. Thus, ill-defined, nonsemiotic physical processes, Kantian noumena, and Bohmian “implicate orders” are on the one side of the measurement divide (Bohm 1981), whereas entirely well-defined symbols and formal operations, Kantian phenomena, and Bohmian explicate orders are on the other. However, if the observer can arbitrarily change what is measured, e.g., by making measurements on the measuring devices to incorporate them into the model, then the cut is ill-defined.¹² However, once the measuring

¹⁰ Specification of the mode by a proposition that is to be evaluated returns us to a clear Kantian analytic-synthetic-practical distinction (*contra* Quine).

¹¹ We also reject the postmodernist construction of “technoscience,” which conflates science (successful understanding, empirical truths) with technology (successful action, pragmatic truths).

¹² As von Neumann showed in 1932, one cannot completely eliminate measurements by successively subsuming them into the formal predictive model, for to do so leads to infinite regresses

Fig. 42.5 State-transition (ST) structure of measurement and computation operations in scientific models. The Hertzian computation diagram (Hertz 1894) described in terms of observed STs. The measurements are contingent processes that depend on sensorworld interaction, whereas computations are determinate processes that only depend on initial states and specified ST rules



devices along with their operational states are specified and fixed, i.e., once a fixed observational frame is adopted, then the cut *can* be operationally determined.

One can examine the structure of transitions between sign states associated with the semiotic operations in the model (Fig. 42.5). Initial experimental conditions are set up and the measuring devices are first put into an initial reference state R_1 . Then, they interact with their surroundings to transit to one of several output states M_1 – M_3 that become the initial conditions of the predictive formal model. Calculations are carried out to predict the final observed state and this outcome is compared with what is actually observed in the test measurements under different conditions (e.g., at other times, places, temperatures, etc.).

Measurements have contingent state transitions (STs), i.e., a reference state transits to one of several alternate output states. Computations, on the other hand, have determinate state transitions (each predecessor state has a unique successor state). The measurement followed by the predictive computation, therefore, has a characteristic ST form. The epistemic cut (vertical dotted line) between measurement and computation lies at the point of contingency, in the transitions between reference (R_1 , R_2) and outcome states (M_{1-3} , M_{4-6}). An external observer examin-

(von Neumann 1955). Therefore, the two kinds of operations are primitive: they complement each other.

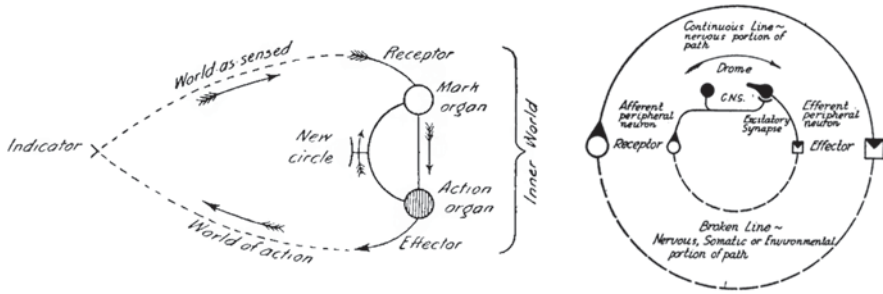


Fig. 42.6 Semiotic percept-action systems. The schematics of von Uexküll (*left*) and McCulloch (*right*) depict transactions between inner and outer realms (McCulloch 1946; von Uexküll 1926). The set of possible inner-world semiotic distinctions demarcates an organism’s *umwelt*. McCulloch’s diagram shows simple reflex loops (*outer drome*) and those mediated by the central nervous system (CNS; *inner drome*). The loops pass through physical processes in the environment

ing a measuring process followed by model prediction can clearly demarcate the two operations by their observed STs, thereby resolving the measurement problem, provided that the observational frame corresponds to the sign states of the model.¹³ Under these empirical, systems-theoretic criteria, a given system appears to embody a modeling relation when an observational frame can be specified, such that the ST structures associated with measurement and computation can be observed.

42.9 Percept–Action Systems

Percept–action systems sense their environment, determine what action to take, and act on it, all using sign distinctions and operations. All organisms continually sense their surrounds and react to sensed changes. Animals have evolved nervous systems that are specialized for rapid and flexible responses that are contingent both on current perceptions and internal drive states. Percepts trigger actions, which in turn produce external changes that produce new percepts (Powers 1973). Intermediate between sensory inputs and motor outputs are neural, semiotic distinctions that map percepts to actions, Fig. 42.6 (McCulloch 1946; von Uexküll 1926). Internalized organismic goal states steer, switch, and reorganize percept-action mappings so as to more reliably satisfy system imperatives (homeostasis, self-preservation, reproduction).

This basic cyclical organization of perception, action, and its coordination has been understood since ancient times (Hall 1969; Modrak 1987). As William James

¹³ Clear demarcations between semiotic functionalities are, therefore, only possible within the context of a particular, fixed observational frame. As with other foundational problems, ambiguity and indeterminacy can be replaced with clarity and consistency once operationalist definitions that specify methods of observation, calculation, and evaluation are adopted.

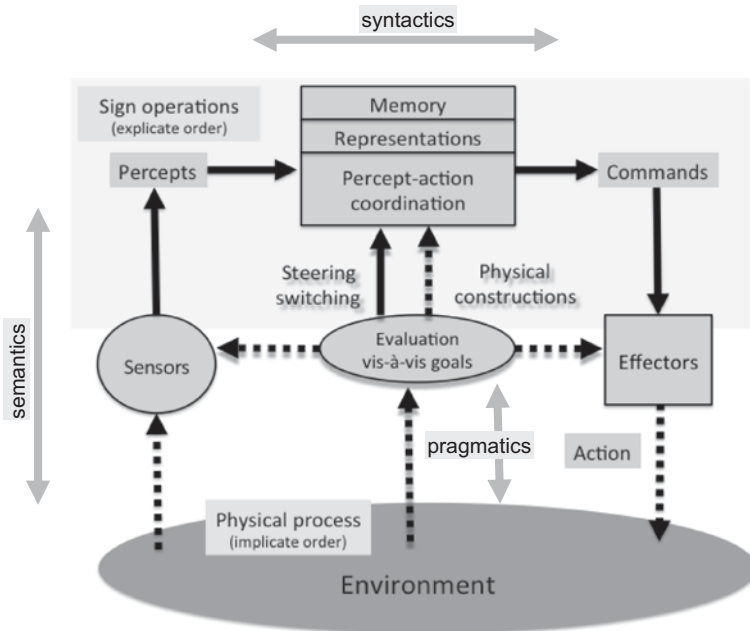


Fig. 42.7 Semiotics of cybernetic percept-action systems: basic structures, functions and semiotic roles. Semantics: sensors and effectors determine causal relations between the system and its environment. Syntactics: coordinative processes map current percepts to commands that activate effectors to produce actions. Pragmatics: sign-directed processes that evaluate performance according to internal goal criteria and adjust percept-action mappings accordingly to improve it (via short-term steerings, intermediate-term switchings, and long-term modification of physical hardware)

put it, “This whole neural organism...is, physiologically considered, but a machine for converting stimuli into reactions; and the intellectual part of our life is knit up with but the middle or ‘central’ portion of the machine’s activities” (James 1890, vol. 2, p. 374). Likewise, biologists, psychologists, and neuroscientists have long appreciated their anatomical substrates in sensory organs, brains, and muscles. However, understanding the internal cybernetic, goal-seeking mechanisms that in Herbert Spencer’s words “adjust inner relations to outer ones” came to science considerably later (Arbib 1989; Craik 1966; James 1890).

Percept-action systems can also be analyzed in similar semiotic terms as predictive models once sign-directed actions are coupled to the predictive processes in the models. Actions allow the signs that are produced as predictions to influence the external world by directing the motions of effectors.

A comprehensive taxonomy of percept-action systems can be formulated in which the faculties of sensing (measurement), coordination (computation), and effecting (action) are all subject to adaptive modification (Fig. 42.7). As in Fig. 42.5, syntactic relations are arranged along the horizontal axis, and semantic relations on the vertical one. Fixed, nonadaptive percept-action systems end here.

In adaptive percept-action systems, goal-driven, adaptive changes in syntactic and semantic relations are implemented according to how well the actions satisfy internal goals. This involves internal mechanisms that modify system functions. The process of evaluating action and altering system operations accordingly is depicted along the additional pragmatic axis in the center of the diagram. An adaptive system can modify its percept-action mappings by choosing new coordinative computations that change relations between existing perceptual signs and motor commands (adaptive “switching” or “steering” of action). Percept-action mappings can also be modified by physical constructions of coordinative hardware that expand the numbers of internal sign states and/or increase the dimensionality of the computational sign space. These changes can be brought about by hardware modifications, such as expanded memory capacity (new computational states) and the addition of new internal signal types (new dimensions).

42.9.1 *Nonadaptive Percept-Action Systems*

The functional organization of fixed, nonadaptive percept-action systems is schematized in Fig. 42.8 (top panel). One could think of the most primitive percept-action system in terms of a simple organism or robotic device that has sensors, effectors, a coordinative apparatus for determining which actions are to be taken in response to which particular perceived environmental and internal states (von Neumann 1958). The measuring devices of the scientific model become the sensors, and the predictive algorithm becomes the coordinative part that determines which available action will be produced. Here, the measurement and computation operations in effect make a decision as to which action should be taken rather than a prediction of some future observed state. Given particular sensory stimulus, a fixed, nonadaptive percept-action system will always produce the same action decision in response. Decision choices then command the effectors of the device to act on the external world to influence it in some way.

As with sensors in scientific models, the effectors of the system provide causal linkages between the sign system and the external world, whereas for sensors, the causal linkages run in the direction from interactions with the world that in turn influence internal functional states, for effectors, these causal linkages run in the other direction, from internal functional states to changes in the world. Thus, one can speak in terms of sensory semantics and action semantics depending on the nature of the immediate causal linkages of the signs involved.¹⁴

¹⁴ The semiotic operation of sign-initiated action (Fig. 2, left panel) describes some sign-directed process that activates effectors to act on the world outside the sign system. The ensuing world change is not semiotic, as it lies outside the functional boundaries of the sign system. If it were describable in semiotic terms, depending on whether it involved determinate or contingent STs, the process would respectively resemble either computation or measurement.

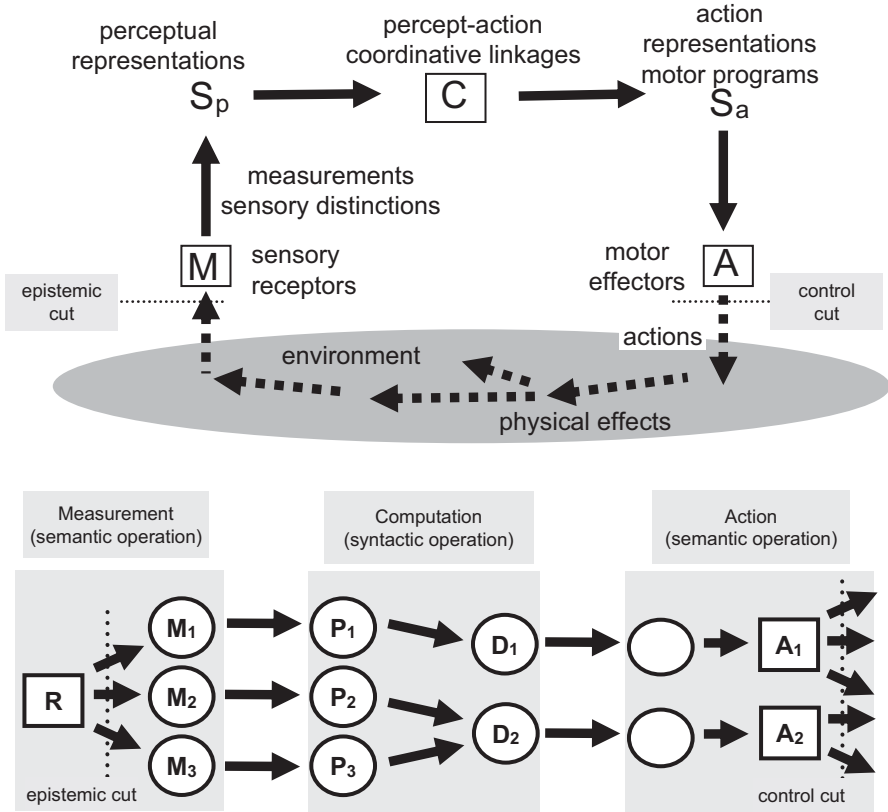


Fig. 42.8 Top: Basic semiotic structure of simple percept-action systems, in terms of measurement (M), computations/coordinations (C), sign-directed actions (A), and physical action that takes place outside the semiotic realm. Bottom: Observed state-transition structure of semiotic operations. *Circles* indicate sign states, while *squares* indicate unobserved nonsign states. Epistemic and control cuts demarcate the functional boundaries of sign-mediated determinate state transitions (STs). Effects of actions on subsequent measurements that close the loop are omitted from the ST diagram

42.9.2 Functional Boundaries: Epistemic and Control Cuts

The operational state-transition structure of a simple percept-action sequence is depicted in Fig. 42.6 (bottom). Here, measurements produce alternative sign states that are then in turn determinately mapped onto other sign states to produce action decisions activate effectors to produce physical actions. In the case of measurements, the specific sign states that are produced are contingent on processes outside the sign system (the physical actions and interactions of measuring devices and environments). For actions, physical changes in the environment are contingent upon a sign-directed process. Thus, although both sensing and action realize contingent, semantic linkages, the directionality of the causal linkage is reversed, such that the

meaning of a perceived distinction to an organism or device is different from that of an action. But the action is not a purely unidirectional causation because organisms and devices form ongoing percept-action loops that extend into and out of the environment (the semiotic circles of Fig. 42.5), i.e., actions partially cause subsequent perceptions that in turn cause subsequent actions.

Just as there is an epistemic cut that divides ill-defined indeterminate processes from the well-defined outcomes of measurements, there is a “control cut” that divides well-defined and determinate decision processes from the manifold influences that the actions of the engaged effectors have on the external world. This control cut demarcates a semiotic realm that is controlled from within (internal causation), from an exterior realm whose changes occur more or less independently of the sign system. The control cut is the functional boundary of the percept-action system on the action side.

Whenever a fixed, predictable prosthetic device is controlled by the effectors of a percept-action system, the functional boundary of the semiotic realm of the percept-action system on the action side, the control cut, moves outward to the point of contingency of the influence of the action on the external world.

These functional semiotic boundaries may have profound psychological and phenomenological implications and correlates (Merleau-Ponty 1963). From the subjective perspective of its conscious user, a prosthetic device is felt as a part of one’s own self. As a working hypothesis, the self, as a field of internal circular-causal loops (McCulloch 1946, 1951), may be demarcated by these function-alcausal boundaries. Those internal sign changes that are contingent with respect to internal causation are experienced as sensations, whereas those that are internally generated (self-initiated) are experienced as thoughts and volitions. The intervening semiotic realm between these two cuts forms a locus of sensory information and control that is relatively autonomous of the environment, and a locus that is coextensive with our perceived sense of self and will.

42.10 Adaptive Percept-Action Systems

Goal-seeking, purposive systems and their pragmatic steering linkages can be incorporated into the semiotic framework. An adaptive goal-seeking system (a.k.a. a *cybernetic system*) alters its internal structure so as to better achieve its internal goals (Ackoff and Emery 1972).

Goal seeking in natural systems does not require a purposive (or intelligent) designer. Through purposeless mechanisms of inheritance, variation, construction, and selection, biological systems have evolved internal adaptive, goal-seeking mechanisms that maintain homeostasis and steer behaviors in manners that enhance survival and reproduction (Rosenblueth et al. 1943). Adaptive artificial systems, on the other hand, do typically incorporate explicit goals in their design.

All cybernetic, adaptive systems incorporate sets of goal states, evaluative sensors that assess performance, operations that compare current performance states

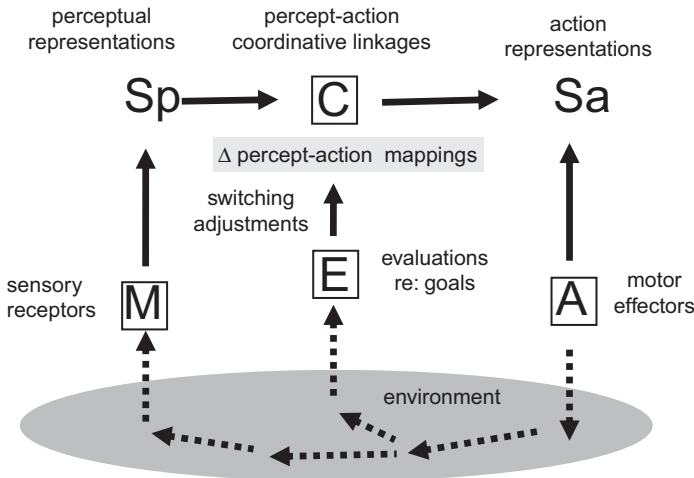


Fig. 42.9 Adaptive, cybernetic, goal-seeking percept-action system. Here, performance evaluation and syntactic adjustment mechanisms implement alterations in percept-action coordinations (“steering adjustments”) that improve performance vis-à-vis internal goals

with goal states, and mechanisms for adjusting percept-action mappings contingent upon these comparisons (Fig. 42.9). Percept-action coordinations can be adjusted on several levels from simple steering, to switching between different percept-action “programs,” to internal adaptive modifications of percept-action decision processes, and even to self-construction of the sensors and effectors that determine the categories of perception and action (Fig. 42.10). This self-construction process can even go further to adaptively modify all parts of the cybernetic system including revisions of goal structures, refinement of evaluative mechanisms, and elaboration of coordinative mechanisms. Such systems arguably have open-ended evolutionary possibilities—they can transcend their initial specifications (Cariani 1989, 1992, 1993, 2012a; Kamps 1991).

Goal-seeking mechanisms require evaluative processes that are a type of measurement process in which some goal-related observable (performance) is evaluated (Fig. 42.2, right panel). Goals have a special role in the functional organization of adaptive devices—they steer the reorganization of internal signaling processes. Whereas the results of measurement operations in percept-action loops are mapped into decisions, motor/effector programs, and actions, the results of evaluative processes are utilized by goal-driven steering mechanisms to adaptively alter the structure of the percept-action mappings. An alteration is adaptive if the adjustment mechanisms modify the structure in a manner that improves performance vis-à-vis some internal goal.

Steering and switching, as the terms are used here (Fig. 42.2), involve altering percept-action mappings without changing the nature of the percept-action spaces themselves. For steering, this modification may be continuous and incremental (as in altering the relative timing of a motor response), whereas for switching it may

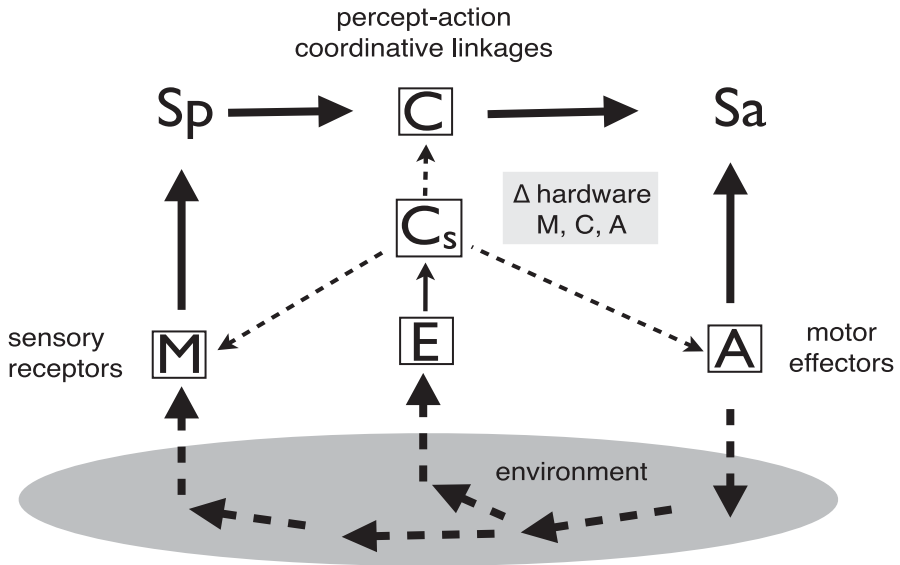


Fig. 42.10 Self-constructing, self-modifying cybernetic percept-action system. Here, performance evaluations direct the construction of the physical parts of the device, enabling new sign states, sensors, and effectors to be built. New sign states change the syntactic, combinatorial capabilities of the system, whereas the addition of new sensors and/or effectors change the semantic relations between the internal states of the sign system and the external world

involve remapping perceptual signs to decision states (changing which of a set of alternative sensorimotor programs are used in a given situation). Virtually, all existing trainable classifiers and controllers function this way, by changing input–output mappings of perceptual features to decisions so as to improve the performance with experience. Here, the functional, semiotic signal spaces of the system are not themselves changed, nor are the external semantics of input sensory signals and output effector signals. What is changed in this process is the particular syntactic percept-action mapping that is in use.

42.11 Self-Modifying and Self-Constructing Percept-Action Systems

Self-modification and self-construction involve sign-directed physical construction processes that modify the material substrate of a semiotic system. Such modifications in turn can add new semiotic functionalities, such as new types of measurement or coordination or action, that can qualitatively enlarge a system’s capabilities and scope. For an example, the appearance of light-sensing organs in the evolution of a biological lineage adds new distinctions and dimensions to the sensory repertoires (*umwelts*) of subsequent individuals of that lineage. Such processes can

add new sign distinctions, new external semantics, and new goal structures to the system. The mechanisms of self-construction involve evaluative sign-mediated mechanisms that direct the physical modification and augmentation of the material substrates that subserve sign functions (Fig. 42.10). The operation of “construction” (Fig. 42.2, right) describes the process by which signs can guide fabrication and modification processes. Genetic expression that directly specifies and indirectly guides the production of cellular constituents is a salient natural example. The construction is differentiated from sign-directed action, in that the physical changes produced are alterations of the material substrate of the semiotic system. The basic scheme describes the evolution of the physical hardware both in biological evolution and evolutionary robotics contexts.

42.11.1 *Organizational Closure and Functional Autonomy*

Self-construction permits closure and autonomy. When an organism or device has the ability to adaptively construct its own physical hardware, it gains a degree of *structural autonomy* vis-à-vis its surrounds. When a system constructs the parts that interpret or read out its symbols, it achieves *semantic closure* (Pattee 2008, 2012a), an example being the construction of the transcription, translation, and control apparatus that interprets how DNA nucleotide sequences will be interpreted by the cell.

When an organism or device can adaptively construct its own sensors, then it determines the external semantics of its internal symbols, i.e., which aspects of the external world it can sense. Such a system achieves a limited degree of *epistemic autonomy*. The construction of new coordinative capacities, such as added memory or expanded representational operations, confers on the system—the freedom to form new kinds of cognitive categories and deliberative strategies. On the action side, when a system constructs its own effectors, it achieves some control over which categories of action are available to it. Analogously, a system capable of modifying its evaluative, goal structures attains a degree of *pragmatic or motivational autonomy*.

All of these closures confer upon the sign system some degree of autonomy and internal causation. The more autonomy that the system achieves, the more self-determined and less externally determined is its trajectory. In effect, such structurally autonomous systems have a higher degree of self-direction. Ultimately, these systems have more potential degrees of freedom available to them that permit them to determine their own *umwelts* and their own goals.

Self-modifying systems provide functional and mechanistic examples of constructivist theories of mind (von Glasersfeld 1995; Piaget 1971) Here, internal self-organization processes are driven by interactions with external environments. As Piaget said, “The mind organizes the world by organizing itself.”

In the late 1950s, the British cybernetician Gordon Pask constructed an electrochemical device that adaptively evolved from nothing the ability to register the

presence of sounds, to distinguish between tones of different frequencies, and to detect magnetic fields (Cariani 1993; Pask 1959; Pickering 2010). The system in effect created new sensors and thus partially determined its relationship to the external world. Pask entitled his paper, without irony in this case, “Organic analogues to the growth of a concept.”

Translated into neural terms, self-modification of neural substrates can suggest potential mechanisms by which new concepts can adaptively be formed in biological brains. Concepts can be conceived in terms of distinctions made on the internal milieu of neural signals and representations. Forming a new neural assembly in effect creates a new sensor on that internal milieu that produces a new sign distinction in the system, thereby increasing representational degrees of freedom.

42.11.2 *Emergent Novelty, Creativity, and Open-endedness*

One can consider how new sign functions arise (Cariani 1989; Queiroz and El-Hani 2006). The adaptive systems considered here can generate new combinations of existing signs (via new percept-action mappings) through switching and qualitatively new signs and sign functions (via new sensors, computations, effectors) through construction. Here, one can distinguish between two corresponding types of novelty and the processes that create them: *combinatorial* and *creative emergence* (Cariani 2012a).

Combinatorial emergence involves producing new combinations of existing primitives, a primitive being an indivisible element, atom, entity, or distinction of a system. The Roman alphabet consists of primitive letters that can be combined to create new strings. In percept-action systems, new combinations of perceptual features and effector actions are possible. The adaptive alteration of percept-action mappings is a form of combinatorial syntactic emergence—new percept-action mappings are created from existing percept and action primitives.

Creative emergence involves the creation of new primitives, i.e., elements that cannot be created by simply combining existing elements in a system. One can enlarge the Roman alphabet by constructing new graphical forms, but not by stringing together existing Roman letters.¹⁵ Pask’s device is a prime example that new sensory distinctions being created *de novo*. Creative emergence of new signs and sign functions can thus occur through the appearance of new semiotic functions brought into being through self-construction.¹⁶

¹⁵ One does not create color vision by simply recombining feature primitives of monochromatic vision—new types of photoreceptors with differing wavelength sensitivities are needed. When new types of photoreceptors are introduced, then, in effect, another observable feature dimension is added to the internal sign states of the system.

¹⁶ As with the other functional distinctions, it is possible to develop clear, operational criteria for recognizing these two kinds of emergence. In the epistemological, observer-relative conception of emergence, called *emergence relative to a model* (Cariani 1989, 2012a; Rosen 1985), an emergent event occurs when the behavior of a system violates the observer’s expectations; whether the ob-

Whereas combinatorial systems are bounded in their possibilities by their limited set of primitives, those systems that can create new primitives, because the space of possible primitives is ill-defined, have open-ended possibilities. In the Roman letter example, the space of possible alternative graphical characters is ill-defined, therefore, its set is unbounded.

42.12 Neurosemiotics

Nervous systems can be considered first and foremost as cybernetic percept-action systems (Arbib 1989; Boden 2006; Cariani 2001b; McCulloch 1951, 1965; Pickering 2010; Sommerhoff 1974). From the simplest animals with nervous systems to the most complex, the evolved, functional role of the nervous system is to coordinate the effective action such that chances for survival and reproduction are enhanced. At each moment, this coordination is contingent on the perceived state of the external world, the sensed internal state of the organism, and current dominant goal imperatives. Neurophysiologists and computational, theoretical neuroscientists are currently attempting to reverse-engineer informational processes in brains from the responses of neural elements and their correlations with specific perceptions, thoughts, feelings, memories, drives, and actions.

All of the high-level functionalities of adaptive and self-constructing cybernetic systems are present in biological brains, in part, because the functional organization of biological organisms was a major inspiration for cybernetics. In the nervous system, sensory organs play the role of sensors that determine the external perceptual semantic categories of internal neural activity states. Muscles and secretory organs play the role of effectors that similarly determine the external semantics of neurally guided actions. In between sensory and effector organs are recurrent neural networks that coordinate appropriate and effective action in service of the satisfaction of internal drives (goal states). Neural circuits connect sensory and motor neural pathways at many levels, from two-neuron sensorimotor reflexes in the spinal cord to sets of elaborate and complex recurrent, reciprocal interconnections in the forebrain. Percept-action coordinations thus range from simple reflex arcs to highly complex loops that enable delayed cognitive, anticipatory, deliberative, and mnemonic-driven processes to influence what actions should be taken.

42.12.1 *Neural Correlates of Semiotic Operations*

The general functionalities in adaptive percept-action systems have rough correlates in biological brains. In the brain, afferent sensory pathways convey neural

server can account for the change in terms of existing distinctions and processes, or whether new ones must be invoked distinguishes between combinatorial and creative processes.

signals from sensory receptors to primary sensory areas of thalamus and cerebral cortex. Likewise, descending motor pathways convey neural signals from motor cortex and thalamus down to the spinal cord and out to muscles. The cerebral cortex analyzes sensory patterns, recognizes classes of familiar patterns, generates motor sequences, and carries out most deliberative executive functions. The basal ganglia just below the cortex provide switching functions for engaging particular task-relevant motor programs and for enhancing relevant sensory information (attention). The mechanism involves a two-step inhibitory linkage that releases relevant motor programs and sensory channels from inhibition, thereby amplifying their signals and effects. Basal ganglia circuits are in turn controlled and adaptively reorganized by midline dopamine-mediated predictive-reward circuits that increase propensities for repeating goal-satisfying behaviors, and decrease those that lead to adverse consequences. The cerebellum is involved with real-time steering of sensorimotor action. The hippocampus can be regarded as a rebroadcast system that maintains items in reverberating memory and facilitates consolidation into long-term memory.

An attractive high-level integrative hypothesis holds that cerebral cortex, basal ganglia, and cerebellum fulfill complementary functions (Doya 2000). The cerebral cortex carries out unsupervised learning of correlations of neurally encoded events and signals, the basal ganglia carry out reward-driven anticipatory prediction (reinforcement learning), and the cerebellum carries out supervised learning of sensory and motor-timing relations. In semiotic terms, the cerebral cortex is tasked with modeling and reproducing the causal structure of percepts, concepts, and actions: perceptual semantics, cognitive pattern recognitions and representations, and action semantics. The basal ganglia perform switching functions on percept-action circuits, with the cerebellum performing moment-to-moment steering functions. One can also point to control structures in subcortical, limbic circuits that have embedded goal states and the means, via interoceptors, to evaluate the current state of the organism and compete for the control of switching mechanisms (Denton 2006).

Within a cybernetic framework, emotions can be regarded in terms of an interoceptive evaluative system that reflects the global state of the organism and its propensities for different modes of action. Decades ago, Kilmer and McCulloch (Kilmer and McCulloch 1969) postulated that animals have a set of system modes that realize different types of basic behaviors, such as eating, drinking, sleeping, fighting, fleeing, mating, searching, and exploring. They hypothesized that the reticular activating system in the brainstem functions as the command and control system of the organism, taking inputs from all over the brain, evaluating their significance and urgency, and switching behavioral modes accordingly. In the context of such a modal theory of behavior, neural signals related to affective state could be broadcast widely within the system, switching local circuits into local operational modes appropriate to the current global behavioral mode.

For the most part, adaptive neural adjustments have traditionally been conceptualized in terms of new combinations of neuronal connectivities that realize new combinations of features (combinatoric emergence). But the creation of new mental primitives can also be conceived via adaptive formation of neuronal assemblies

that function as newly self-organized internal sensors that implement new internal semantic, conceptual categories (Cariani 2012a).

42.12.2 *Sign States and Neural Codes*

A fundamental outstanding problem for a neurosemiotic account of brain function is that the precise nature of the functional neural sign states themselves is not yet well understood in most parts of the system. This is known in neuroscience as the *neural coding problem*, and it is similar to the methodological problem in biosemiotics of distinguishing semiotic from nonsemiotic processes in natural systems. Neural codes are those (informational) aspects of neural activity that play a functional roles in neural information processing and behavior (Bullock 1968; Cariani 1995; Perkell and Bullock 1968; Pribram 1971; Rieke et al. 1997; Uttal 1972). In semiotic terms, the neural coding problem involves the identification of internal sign distinctions that are realized via alternative patterns of neural activity.

The neural codes can involve either distinctions between patterns and relative timings of spikes that course through neural circuits (temporal codes) or between patterns of neuronal elements that are active or quiescent (channel codes). The neural codes for particular informational distinctions may be very localized in particular brain regions, e.g., particular local neural signs for color that operate only in visual areas, or they may be broadly distributed across many brain regions, e.g., temporal patterns associated with rhythmic stimuli or movements.

How we regard the nervous system as a sign-wielding informational system depends critically on the nature of the neural codes. If the neural “signals of the system” are distinctions conveyed in terms of channel activation patterns, then the brain must be seen in terms of some sort of connectionist, switchboard architecture. Here, the system states are the collective activation profiles of neural elements, ensembles, or whole populations. If, instead, the neural system signals are based on temporal patterns of spikes, then it may be necessary to reconceptualize brains as temporal correlation machines whose functional states might depend more on specific patterns of spiking activity at any given time rather than on which particular neurons are most active.

42.13 **Neurosemiotics and Neurophenomenology**

Neurosemiotic and neurophenomenological bridge laws are needed if a neurally grounded relationships between semiotics and phenomenology are to be elucidated. Neurosemiotic laws describe the neural codes that subserve semiotic, informational processes within nervous systems. However, not all information processing in the nervous system results in distinctions that are present in conscious awareness—most neural information processing that goes on is subliminal—we are not directly

aware of it. For this reason, neurophenomenological laws are needed that describe which neuronal patterns of activity are required for conscious awareness (the neural correlates of consciousness, NCCs) and which specific patterns of neuronal activity evoke specific concomitant conscious experiences (the neural correlates of the contents of consciousness, NCCC; Koch 2004; Baars and Gage 2010). A theory of the neuronal requisites of consciousness describes the essential differences in neural activity that characterize subjects in waking, conscious states versus nonconscious states such as anesthesia or coma versus other states such as sleep, hypnosis, meditation, or trance. A theory of the NCCC describes the neural activity patterns that give rise to particular experiences, such as the form, color, texture, and spatial dimensions of an object, or the pitch, timbre, loudness, and duration of a musical note.

Eventually, when neural codes are understood, then the stage will be set for elucidating those aspects of neuronal activity that evoke changes in conscious awareness (neurophenomenology). Attempts to find a neurosemiotic basis for neurophenomenology began with the early nineteenth century theorizing about specific nerve energies and local signs, and have proceeded to tackle the dimensional structure of experience and the neural codes and computations that are responsible (Boring 1933; Fessard 1954; Pollen 2011; Rose 2006; Troland 1929).¹⁷

One can adopt Wolfgang Kohler's psychoneural isomorphism hypothesis that every distinction in conscious experience corresponds to some significant change in the pattern of neuronal activity, such that the structure of awareness is isomorphic to the structure of the neural informational order (Köhler 1947). If this hypothesis proves correct, then all of the aspects of neural activity that produce distinctions in our awareness would one day be describable in semiotic, informational terms, i.e., the neuronal activity distinctions that constitute central neural codes.

Neurophenomenology would then become a set of bridge laws between neurosemiotic neural codes and phenomenological distinctions. When and if this does come to pass, phenomenology will then have grounding in both first-person subjective experience and in the underlying neurosemiotic processes that generate that experience.

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¹⁷ We have worked on both NCCC and NCC problems, the neural coding of pitch (Cariani 1999) and neurocomputational requisites for awareness (Cariani 2000a, 2001b, 2012a), which we believe, entail autopoiesis-like mutual regeneration of sets of neuronal temporally coded spike pattern signals in global reentrant circuits.

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Peter Cariani has been involved with theoretical biology, biological cybernetics, and auditory neuroscience. His work explored epistemic implications of self-constructing adaptive systems in the context of problems of emergence and evolutionary robotics. At the Eaton-Peabody Laboratory for Auditory Physiology, Boston, he investigated autocorrelation-like neural time codes for pitch, timbre, and consonance. He has proposed artificial neural timing nets for sound separation and analysis and as general-purpose multiplexed signaling systems. In 2009, he guest-edited Yoichi Ando's book, *Auditory and Visual Sensations*. He is presently Clinical Instructor in Otology and Laryngology at Harvard Medical School, Senior Research Scientist at Boston University, and teaches courses at Harvard and MIT related to the neuropsychology of music.

Chapter 43

Semiotic Modeling: A Pragmaticist's Guide

W. John Coletta

43.1 First, an Ecovian Warning to All Model Makers

“When I talk with Ubertino[,]” [said William,] “I have the impression that hell is heaven seen from the other side.”

I did not grasp his meaning. “From what side?” I asked.

“Ah, true,” William acknowledged the problem. “It is a matter of knowing whether there are sides and whether there is a whole.”

Umberto Eco, *The Name of the Rose* (1994/1980: 65)

43.2 Modeling: The Semiophysics of Graphical Space

Broadly considered, *semiotic modeling* is a category and a process that encompasses “representational phenomena” of most every type from how living things create the very conditions for their acts of perception to how human beings represent in scientific terms the fabric of the space–time continuum to how social space and time are created by the literal fabric of a new Fedora tilted just so. Semiotic modeling, as defined by Thomas Sebeok and Marcel Danesi, has ontological and epistemological status; it is an “innate ability” that is “derivative of semiosis” itself. Semiotic modeling, for Sebeok and Danesi, then, is “the innate ability to produce forms to represent objects, events, feelings, actions, situations, and ideas perceived to have meaning, purpose, or useful function” (2000, p. 1). No wonder then that some consider semiotic modeling so significant: “The ability to make models is, actually,” Sebeok and Danesi continue,

a derivative of semiosis, defined simply as the capacity of a species to produce and comprehend the specific types of models it requires for processing and codifying perceptual input in its own way. Semiosis is a capacity of all life-forms; representation, on the other hand, is a unique capacity of the human species, which develops during the neonate and childhood periods. (2000, p. 5)

W. J. Coletta (✉)

University of Wisconsin-Stevens Point, Stevens Point, USA

e-mail: jcoletta@uwsp.edu

The work of Sebeok, especially, has led to an understanding of *semiotic modeling* as always already enmeshed within a framework of evolutionary ecology, of “bio-semiotics.” Sebeok writes, “‘Culture’, so-called, is implanted in nature; the environment, or Umwelt, is a *model* generated by the organism. Semiosis links them” (2001, p. vii). Sebeok helped with his program of “modeling systems theory” (MST, related historically to the *Theoretische Biologie* (1928) of Jakob von Uexküll, the “systems biology” of Ludwig von Bertalanffy (1928), Norbert Wiener’s *Cybernetics* (1948) and again von Bertalanffy’s *general systems theory* (GST; 1968)) to *formalize* (“to produce *forms* to represent,” as Sebeok and Danesi write and I quote above) the semiotic link between organism and environment, between the so-called nature and culture. Sebeok and Danesi succeed in formalizing these semiotic links, but they do so in a way designed:

- (1) To undermine foundationalism and essentialism (see Norbert Wiley’s *The Semiotic Self* (1995, p. 11) wherein Wiley discusses American pragmatism’s substitution of a *semiotic model* of the self for the social Darwinian one and then offers his own model of the semiotic self deriving from his synthesis of Peircean semiotics (Charles Sanders Peirce) and the semiotics of George Herbert Mead)
- (2) To render uninteresting the so-called problem at the heart of the longstanding nominalism–realism debate, and at the biological and material levels to boot, as had Charles Sanders Peirce with his seemingly oxymoronic “objective idealism,” wherein “matter is effete mind, inveterate habits becoming physical laws” (1891, Houser and Kloesel 1992, p. 293)

Semiotic modeling, then, as the above summary would indicate, is virtually synonymous with semiosis. According to the MST perspective, what we generically call “semiotic modeling” may be understood to obtain, to manifest itself, in four developmentally arranged registers, only one of which is itself formally called “modeling”: These are “perception,” “semiosis,” “modeling,” and “representation.” “Representation,” as discussed in Sebeok and Danesi’s *The Forms of Meaning*, “is a unique capacity of human beings” and encompasses what are commonly called “signs,” “texts,” “codes,” and “metaphors” (2000, p. 5). In fact, I am most concerned in this chapter with models of “representation,” but modeling is an integral part of the other three registers: “Perception” represents modeling as so embedded within an organism as to represent an always already and necessary erasure; “semiosis” represents “the biological capacity to produce and comprehend forms”; and “modeling” represents “the activity of actually producing forms” (p. 5). “Representation,” while generally understood as “a unique human capacity” in the present chapter, stands either for conscious human form making or model making or for natural processes that, while not necessarily conscious or intentional, nonetheless *create* forms and models that serve, *in effect*, to communicate or produce signs, texts, codes, and metaphors (see Coletta 1999, 1997, 1996, 1993).

In this chapter, then, I focus on *representational* models, mostly diagrammatic or graphical ones (which is to say iconic, in the Peircean and MST sense, models that represent their objects in terms of some manner of resemblance). These diagrammatic or graphical models are presumed to operate as do Charles Sanders Peirce's "existential graphs": A diagrammatic or graphical model is to be understood as being "governed by a system of representation founded upon the idea that the sheet upon which it is written, as well as every portion of that sheet, represents one recognized universe" (1958 *Collected Papers* [CP]: 4.421). I call this system of representation the "semiophysics [after Rene Thom] of graphical space," thereby emphasizing the systematicity of an MST approach to modeling. It is important to remember, however, though I shall here focus on "representational" models, that even at the level of "perception," the *mind-brain-body-affordance* system of a given organism is in fact a *model*, what Jacob von Uexküll calls an *umwelt*, of a given species' ecological niche (2010 [1934/1940]). The "affordances" of this "mind-brain-body-affordances" model (Gibson 1977) are what I call "environmeans" and "environ-meants," objects in the environment of an individual, sometimes even introduced by that individual—objects *as made relevant to it*. (See Fig. 43.1) Indeed, as R. C. Lewontin (1991) writes, "In this sense, the environment of organisms is coded in [is modeled in] their DNA and we find ourselves in a kind of reverse Lamarckian position" (p. 86). Thus, though I will focus on *representational* models here, the role of semiotic modeling in *perception*, in *semiosis*, and in *modeling* (the "activity of actually producing forms") should be underestimated as always already informing forms of meaning.

Semiotic modeling, or, as I like to refer to it, the "semiophysics of graphical space" (with a clear nod to Rene Thom's *Semio Physics* (1990) and to Peirce's "existential graphs"), should be understood to span the three major classifications that constitute Peirce's "semeiotic" (Liszka 1996): "semeiotic grammar," "critical logic," and "universal rhetoric." For those interested in semiotic modeling, "semeiotic grammar" represents an attempt to describe the formal structure and function of sign elements. (Note that Umberto Eco calls the "sign," when understood in its (as we will see) "triadic" form, a "sign function" [1976/1979] in order to avoid the confusion between the triadic sign function as a *systemic* relation of "sign-object-interpretant" and what is merely one *element* of the sign function, itself often called the sign—or the "representamen" in Peirce.) "Semeiotic grammar" also represents an attempt to answer the question, "What counts as a sign?" Most semiotic models address this classification or dimension of the sign.

If "semeiotic grammar" represents an attempt to describe *the relation of the sign to itself*, its structure, which relation is a key to modeling the sign function, then "critical logic" represents an attempt to understand the relation of the sign to its *object* and from that relationship attempts to outline the rules "for expressing and inferring information" (Liszka 1996, p. 53). Modeling this dimension of the sign function requires that the modeler pay special attention to the resistance of, the constraints of, or the "object-objections of" (as I call them) the *objects* to which signs relate.

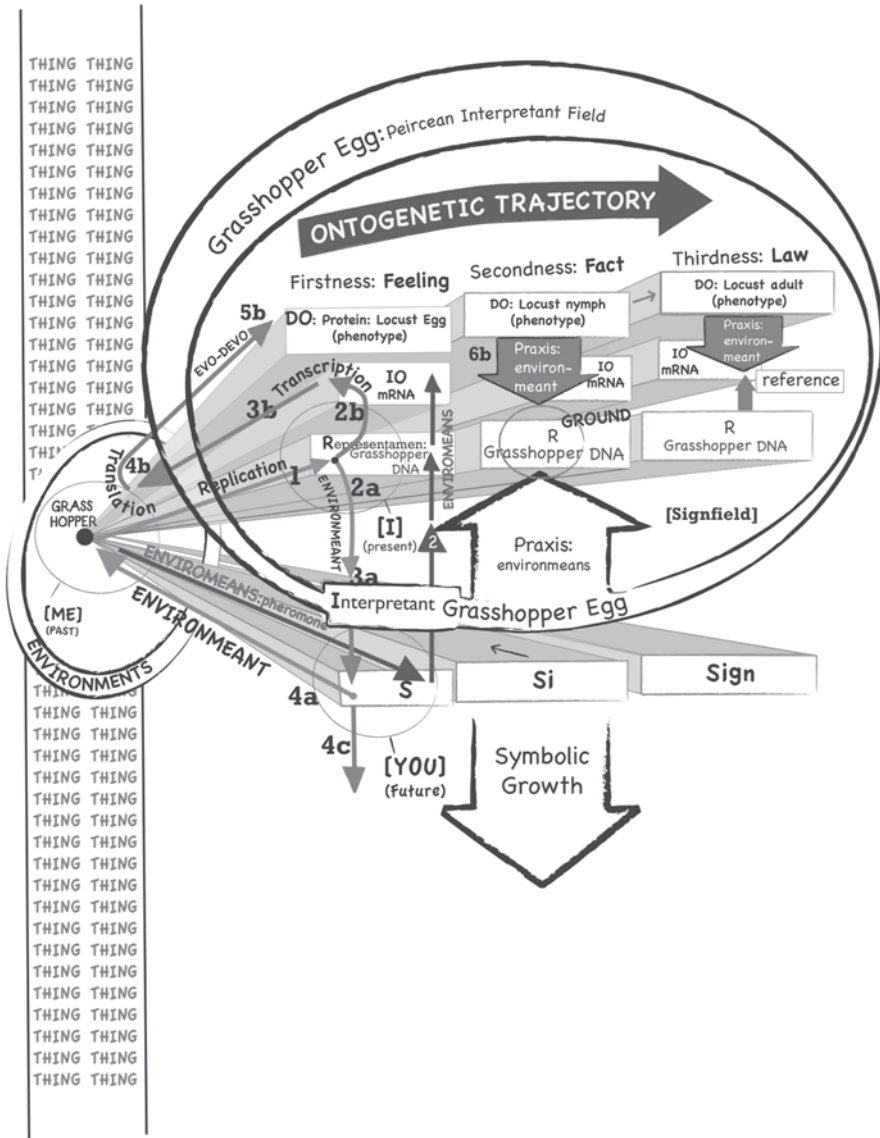


Fig. 43.1 The structure of the semiotic self (of a grasshopper–locust)
 Note that here is a Peircean triadic model of a grasshopper’s semiotic or biovirtual self (after an example in Hoffmeyer 1993/1996). The semiotic structure and the processes represented by the model are general and can be used to show how semiosis, which precedes and even subsumes human language, is a more-than-human endowment. In the particular instantiation of the model on the facing page, a grasshopper is portrayed as an “in-effect” structure: That is, its life cycle represents “in effect” the triadicity of the “Iyoume structure” that Norbert Wiley (1995) forms the definitive reflexivity of the primate self. Wiley and Colapietro combine Peirce’s and Mead’s theories of the self to create the triadic model that is represented. Note that the model combines Peircean *synechism* (the “doctrine of continuity” (Colapietro 1993); the belief that between any two supposed phenomena there is always a third, a belief that undercuts essentialism) and tychism

Of special interest to the modeler of the action of signs, of semiosis, is Peirce's "universal rhetoric," which, in its concern for the relation of the sign to its *interpretants*, represents an attempt to outline and describe the *entelechy* or *telos* of the sign. As Peirce writes, "universal rhetoric" is "the doctrine of the general conditions of the reference of symbols and other signs to the Interpretants which they determine" (1958 CP 2.93, MS 793: 20). Universal rhetoric, therefore, most fully represents the evolutionary, teleological, and emergent dimensions of the sign, the very *signing action of nature*—and is understandably, therefore, the most difficult dimension of semiosis to model (see Fig. 43.1). As semiotic modeling spans the three major classifications that constitute Peirce's "semeiotic," so models might be thought of as signs (versions) of the signing action of signs themselves.

As Liszka writes, in a way that is particularly useful to those seeking to understand the *elements* of the sign function that must be considered in any act of semiotic modeling, "Semeiotic grammar is concerned with demonstrating the formal conditions for signs as such" (1996, p. 18), which conditions consist of

- The sign's capacity of representing an object
- The sign's capacity of presenting itself as connected to its object with respect to some quality (its ground)

(the doctrine of absolute or objective chance (1993)), thereby illustrating the intertwined emergence of firstness (feeling), secondness (fact), and thirdness (law) *with* the emergence of *signs*, *objects* (that which signs stand for), and *interpretants* (the outcome of signs for someone or something, outcomes which are themselves signs, and so on). Note also the emergence of the dynamic object (DO, a thing or phenomenon as it is experienced and as it grows in response to interpretations; in this case a grasshopper's locust self) within the interpretant "shell" or "field" of a to-a-large-extent self-engineered set of enabling influences or "affordances" (in this case a pheromone secreted by a grasshopper when that grasshopper senses overcrowding, a pheromone that causes the grasshopper egg to interpret its own DNA as a "becoming locust"). Also, note how the DO (the emerging locust) becomes more and more semiotically powerful (real) and comes to exert a top-down control over various other dimensions of the unfolding sign process. Note further how the grasshopper here is a type of the "evolutionary message" (Hoffmeyer) or hypothesis about itself that characterizes almost all signing structures (entities) involved in semiosis, including how, in Greg Bear's "*Darwin's Radio*," human endogenous retrovirus (HERV) in our so-called "junk" comes to represent "transmissions" of the human self to the self, and serve as *environmeans* and *environmeants* generated by and out of the self that then becomes part of the self's environment and serve as affordances by which a being, in this case a grasshopper, can call a locust out of itself, that is, bootstrap itself into a new self. See, therefore, where the Representamen (R, a "sign in the broadest possible sense" (1993), not even necessarily mental, here grasshopper DNA) is seen to erupt into firstness at the same time that that sign has already produced an immediate object (JO, "the object as it is represented by a sign" (1993)) (mRNA, messenger RNA, genetically considered) and at least one interpretant ("that in which a sign *as such* results" (1993), which interpretant, depending on one's angle of vision, can be the cell that "interprets" the grasshopper DNA or the pheromone (what I call also an "environmeant") that causes the cell to interpret its DNA as a locust, the grasshopper now an emergent DO of itself.

Environmeants The ways by or manner in which a semiotic self can marshal and deploy the signs, objects, and interpretants of its environment so as to adapt itself to its own future (see Richard Grusin's (2010) "premediation"): how signs determine objects.

Environmeans The ways by or manner in which signs, objects, or interpretants shape or reshape a semiotic self so as to make its past relevant again in the present (see Bolter and Grusin's (1999) "remediation"): how objects determine their signs.

- The sign's determining an interpretant, "understood as a sign which translates and develops the original sign," in an interpreter (which need not be human), its interpretive condition
- The sign function's irreducibly triadic structure, such that "the sign's power to represent is mediated by its grounding and interpretation" (1996, p. 19)

Liszka then continues: each element of the sign-function (sign-object-interpretant), is mediated through the others: the ability of the sign to represent also requires, inherently, its power to be *interpreted* as a sign of that object *in some respect*; the ability of the sign to be interpreted can only work if it is interpreted as *representing* an object *in some respect*; and it can only be understood as representing an object in some respect if it is *interpreted* as *representing* an object as such. (Liszka 1996, p. 19)

Keeping the above *structural* dimensions in mind, consider, all who would be model makers, the following list of characteristics of semiosis that any good semiotic model should incorporate in one's semiotic models.

43.3 The Pragmaticist's Guide to Using Models, Part 1 (See IV for Part II):

Semiotic models may be constructed according to, no surprise here, a *model*, that of the familiar heuristic of particle-wave-field. Below, I describe some characteristics (particles) of semiosis; in sections to follow, wave and field characteristics of semiosis are outlined.

First: the "particles" or pieces: the following list, representing an attempt to demystify semiotic model building, consists of key characteristics to include in semiotic models purporting to represent the sign, its structure, and its action: we may say that

- A sign is recognizable; it stands out.
- A sign stands for something other than itself.
- A sign stands not just for something else but for something more than itself.
- A sign is easily reproduced.
- A sign generally has iconic and indexical qualities.
- A sign often has a multiple valence, that is, it has a tendency to carry more than one meaning.
- A sign is often more powerful than that which it represents.
- A sign is often more flexible than that which it represents.
- A sign is context sensitive and can mean different things in different contexts.
- A sign has agency; it seems to call out of us or its environment a certain response; it gets itself copied.
- A sign is capable of growth.
- A sign is re-inventible.
- A sign is easily connected to, forms assemblages with, other signs.

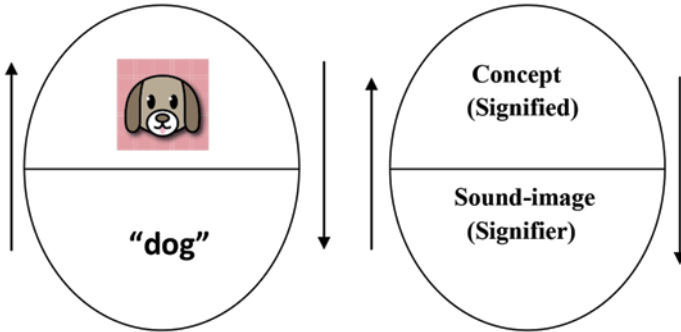
- A sign is easily substituted for in significant ways such that we are led to believe that signs occupy and shape, make impressions upon, their environments.
- A sign depends upon the virtual to make it real.
- A sign can do things not just mean things.
- As with matter and gravitational fields, a sign draws other signs to it and makes things matter.
- Signs (sign functions, really) are usually represented as twofold (signifier–signified) or threefold: sign, object, and interpretant (Figs. 43.2, 43.3 and 43.4)
- Objects determine signs (called “objectivation”; Fig. 43.5); signs determine objects (“signification”); and interpretants determine signs (“interpretation”).

43.4 The Liberating Function of Models

Modeling, semiotic or otherwise, with its seemingly inherent tendency to simplify and totalize (see the Ecovian warning dramatized in the exchange between Brother William and Adso above from *The Name of the Rose*), still often engenders understandable resistance. But modeling is *not* inherently totalizing, as the history of linguistics and structuralism demonstrates. Models and modeling, especially since Russian linguist Roman Jakobson (1896–1982) and French anthropologist Claude Lévi-Strauss (1908–2009), can be understood to have had a liberating, egalitarian function. Jakobson and Lévi-Strauss were influenced strongly by Swiss linguist Ferdinand de Saussure, whose powerful model of the linguistic sign as a self-referencing “difference engine,” a binary system or model consisting of signifier and signified (Fig. 43.6), a system that derived its power from the fact that by uniting language, thought, and action, the *linguistic sign* was no mere spectator of the spectacle of the world but a participant–observer–creator of it, a maker of worlds, and the linguistic sign accomplished this transformation by virtue of a digital technology of the word (the signifier–signified *model* of the sign function)—as powerful a digitalization as the binary, 0–1, codes or models of the computer revolution would prove to be. The lesson was twofold: that a tiny *model* of “reality” could accomplish so much and that this model seemed to apply to all of us, to define us. Indeed, Lévi-Strauss saw the implications of applying a Saussurean elegance of modeling to anthropology. In fact, the *structures* (or *models*) that underpin the thought and language of the so-called savage mind, he discovered, are no less sophisticated or complicated than those structures (or models) that underpin the thought and language of so-called developed people. And, significantly, it was modeling that taught him this! Later, Noam Chomsky’s X-bar theory (1965, 1970) and universal grammar (1957), while themselves challenging the principles of structuralism (see below), nonetheless present diagrammatic models of how all human languages share the same *deep structures* (grammatical underpinnings or “bones”) no matter how dissimilar they may seem on the surface. The *models* of such structures, as provided by the structuralists (see for example the structural linguistics of Ferdinand de Saussure), made this egalitarian insight possible as well as demonstrable and communicable.

- 1. phonemes *t* and *d*, of, say, *tummy* and *dummy*
- 2. *t/d*
- 3. *S/s*: *Signified/signifier (Saussure) or Signifier/signified (Lacan)*

4. The structure of the SIGN as Concept and Sound-Image



5. The structure of the SIGN as Signifier and Signified

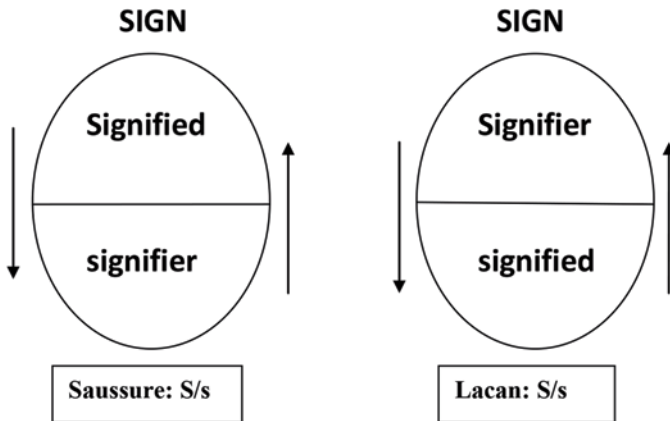


Fig. 43.2 Classical models of sign function. (They show logical relations of the sign function but not semiosis itself)

Saussure:



Peirce:

a. Triangle shape: masks the fact of each element’s necessary involvement with the other elements AND the function of the commens / commind in conditioning those elements.

b. Pinwheel shape: represents that each element of the sign is involved in the others AND that no element exists separate from the Peircean “commens” / “commind”—that is, outside of the community of interpreters.

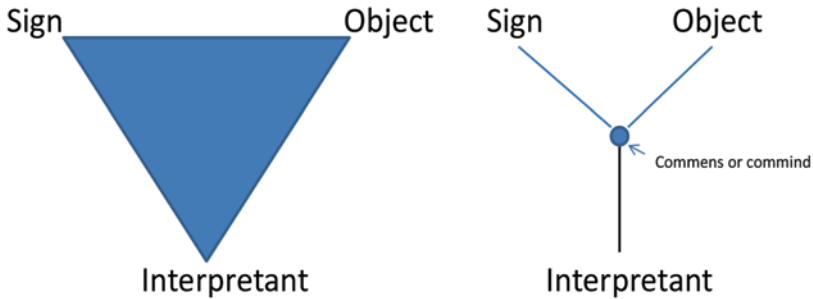


Fig. 43.3 Threefold sign function (after Charles Sanders Peirce)

It is curious that this egalitarian insight—as provided by both structuralist modeling *and* the Chomskyan models that challenged them—that this (post)modern birth of modeling, begins with an “aesthetic-zing,” that is, with the aestheticizing of minimal differences that make a difference: Jakobson focused our attention on the fact that the *music* is the message (or model); he focused our attention on the materiality of sound, on what he called the “poetic function” of communication; and he placed the “emphasis on message,” a materialist, aesthetic turn—like painterly paintings that draw our attention to the medium of the representation, to the paint—that impelled us to notice the materiality of the message. Indeed, who would have thought that all the people, the languages, and the cultures of the world would derive their fundamental equality and unity from an act of *modeling*, from a simple model of binary opposition and identity, as, for example, between the “musical” difference between the phonemes *t* and *d*, of, say, *tummy* and *dummy* (a difference that can make a big difference if misheard in a conversation), as represented by Jakobson in the neat “bundle,” as Crystal L. Downing calls it (2012, p. 114–120), or binary oppositional model, of *t/d*. From this binary oppositional model, this *t/d*, a phonemic difference that makes a semantic difference possible, that *releases* as it were “tummy” from “dummy,” we are led to consider other binary oppositional models that serve to “release” or produce productive difference (the liberatory function) where before there were only monadic *in*-difference, models such as Ferdinand de Saussure’s structurally similar S/s (Signified/signifier) or Jacques Lacan’s S/s (Signifier/signifier) binary oppositional structures—or Roland Barthes *S/Z*, a clear pun that, as I explain below, both references earlier liberating models of *phonemic difference that assert commonality* (differences that unite, see Frederic

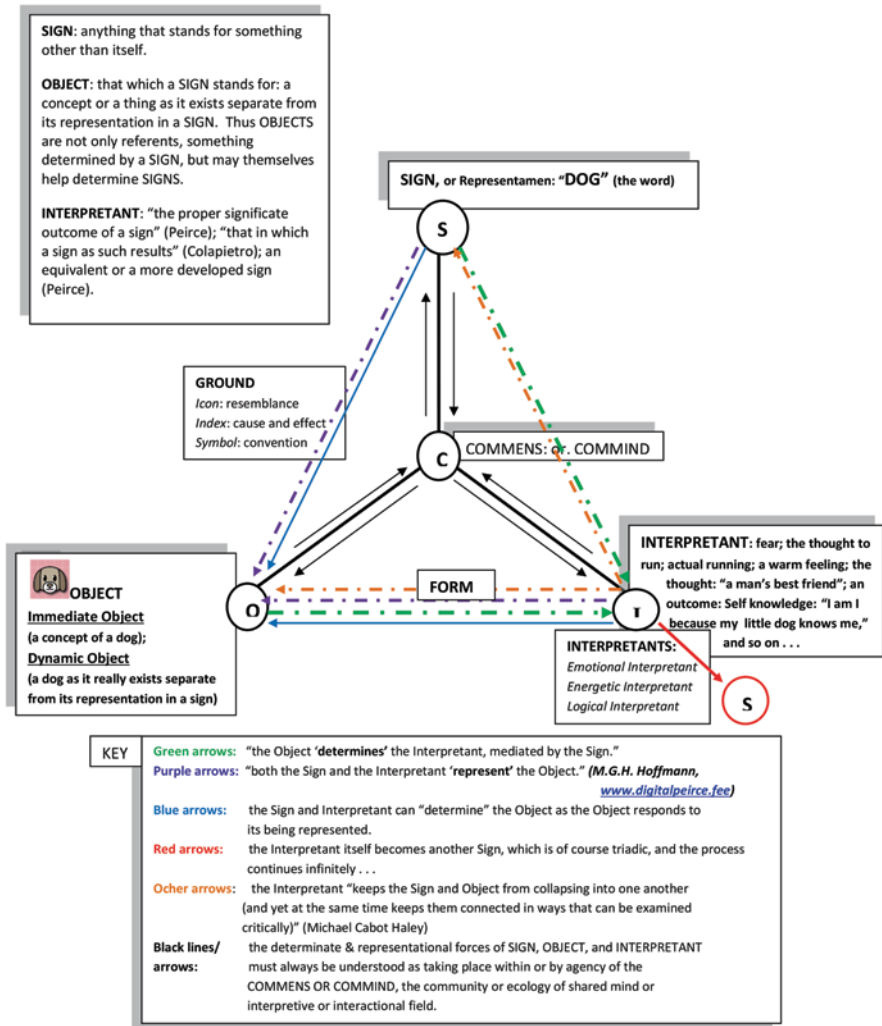


Fig. 43.4 Three Peircean dimensions of ground

Jameson’s “difference relates” [1991/1999, p. 31]; such as t/d) and argue for an even more open, or liberatory, view of humanity and text, or humanity as text. Curiously, the leap from t/d-modeling forms to S/s-modeling forms, while structurally parallel at one level, represents a significant “quantum leap” in semiosis, as I explore below.

Douglas Hofstadter, in a thought experiment in *I Am a Strange Loop* (2007/2008) discusses, in the context of what can only be called semiophysics, “[t]he idea—that the bottom level [of any complexly layered system], though 100% responsible for what is happening, is nonetheless *irrelevant* to what happens [at the next level]” (emphasis added). In attempting to describe or model even a process as seemingly

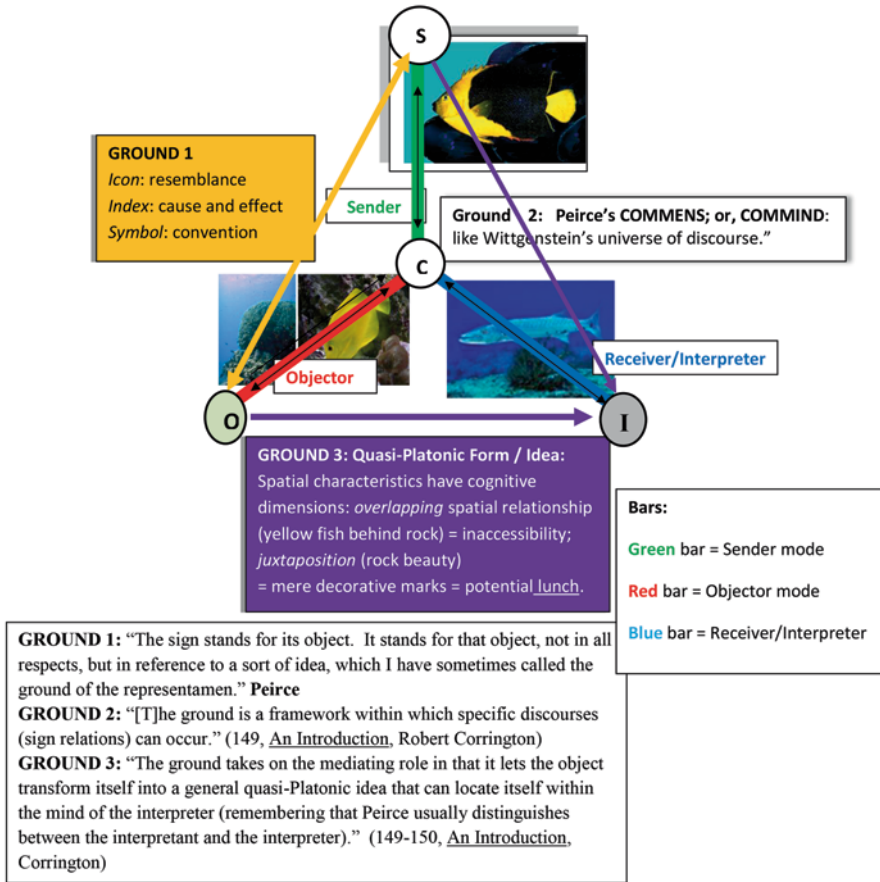


Fig. 43.5 Objects determining interpretants through the mediation of signs (after Liszka 1996): "Objectivation": How an *object* becomes an *objective*

devoid of semiosis as a geological phenomenon, for instance, "self-organization of sorted patterned ground" in alpine and subalpine zones (which processes produce interesting and intricate circular and polygonal patterns of stone and mud that appear to have been arranged intentionally), it must be noted that the atomic interactions that hold a stone together (what we will call the phenomenon), while clearly 100% necessary for there to be an epiphenomenon that we call the self-organization of sorted patterned ground, are irrelevant both to a description of that epiphenomenon and to the forces that we observe at work on the ground: frost heaves, freeze-thaw cycles, sorting, compression, etc.

Just as the phenomenon and the epiphenomenon are insulated from each other representationally (it would be highly inefficient to describe geological processes in atomic terms), there is a parallel interactive barrier too in that the epiphenomenon, while literally made possible by the phenomenon, is irrelevant to it in what amounts

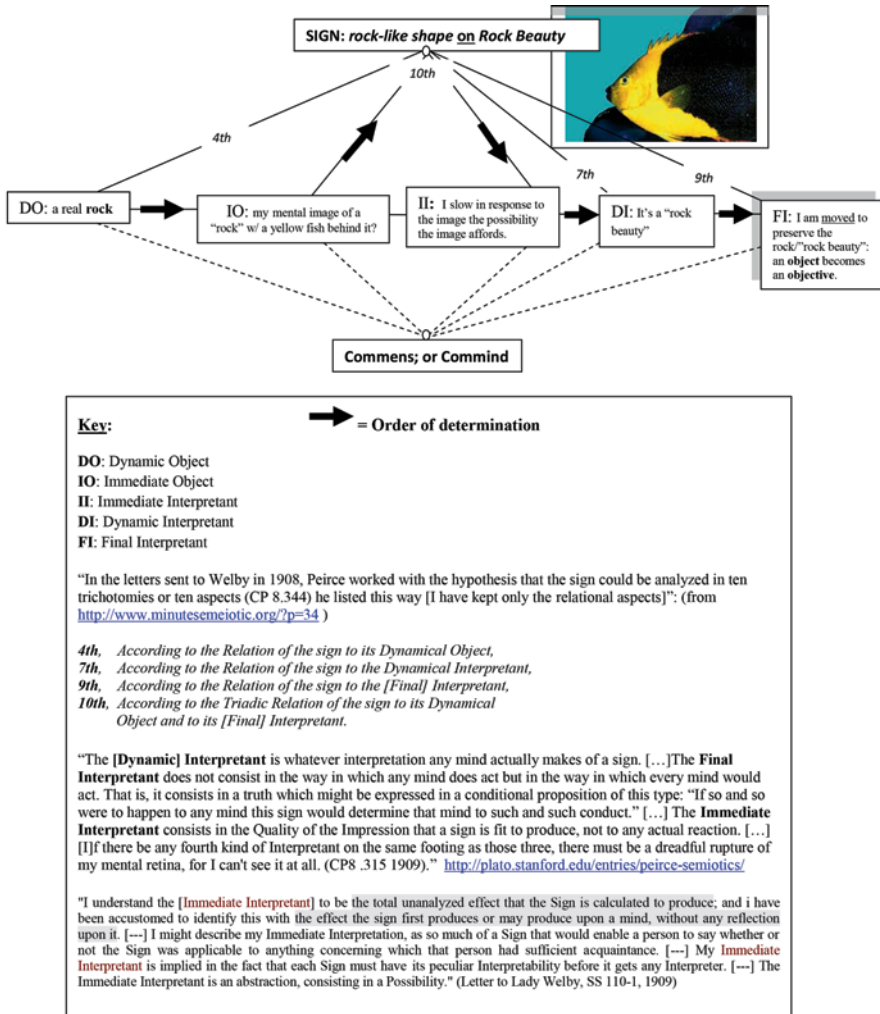


Fig. 43.6 Twofold sign functions (after Ferdinand Saussure and Jacques Lacan). Items 1–5 represent a continuum of binary oppositional models of “differences that makes a difference,” that is, of the structure of the sign

to a perfect disappearing efficiency, a “quantum sweep,” whereby a whole level of interaction is in effect swept away with respect to relevance, but swept away in such a way that it makes possible a clean slate for a whole new level of interactivity. I call this process “irrelevance.” In Peircean terms, an epiphenomenon is a proper significate outcome of, an interpretant of, a phenomenon, if that phenomenon creates a reality, a domain of greater semiotic freedom, that is, one for which it is necessary but irrelevant, as Hofstadter puts it. These quantum sweeps, then, are the very type

of the liberating dimension of semiosis—and represent boundary phenomena that modelers of semiosis may choose to either represent or bracket off.

Similarly, the jump from t/d modeling to S/s modeling is one that represents a perfect disappearing efficiency, “irrelevance,” such that the structure of the sound–image (signifier)/concept (signified) epiphenomenon has made the phonemic phenomenon on which it is based necessary but irrelevant: each domesticates the other, epiphenomena having always already reduced—by having made irrelevant to their activity—the internal complexities of the underlying phenomena and reducing those complexities to an “energy” source for itself.

From S/s-modeling forms, it is only a simple “irrelevant” step to Levi-Strauss’ self-differentiating binary oppositions of *human/culture*, *culture/nature*, *male/female*, *friend/enemy*, *native/foreign*/or *pretty/ugly*, models that, when applied widely across language and discourse communities, drew attention to the structural equivalence of all language and culture.

As mentioned above, Noam Chomsky’s syntactic models (*Syntactic Structures* 1957), while making clear the phonemic and morphological limitations of structural linguistics and its binary oppositional models of human language, continue the liberating tradition of *semiotic modeling*, as Chomsky’s “transformational-generative grammar” and “universal phrase structure,” for example, even when understood as merely representing stages in his evolving corpus, are nonetheless *models* that allow us to codify how no one language is any more complex structurally than any other. Significantly, Roland Barthes’ *S/Z* (1970)—the title of which clearly conjures the phonemic, binary oppositional models of structural linguistics (the t/d of above) only to undermine their limitations, which were their strength as well, the underlying commonality, complexity, and equality of all human language and discourse—augurs the move from structuralist to poststructuralist models of productive difference: The achieved commonality of all structures inadvertently erased their differences, understood as uniqueness (*différance*). But, again, it was precisely as a function of *the* “modeling stance” or *the mode of modeling and remodeling* that a discourse of both commonality and uniqueness could emerge.

This liberating stance, which is, again, *made manifest by semiotic modeling*, holds true both for languages as they may be understood *diachronically* as well as *synchronically*: No one language or people is any less open to the future, all things considered. The linguist and semiotician Michael Shapiro, for example, especially as articulated in his concept of the “telos of diagrammatization” (*The Sense of Change: Language as History* (1991)), offers many explicit and grammatically literal paradigms that serve as *models* of how language, like life, generates novelty out of itself (within the context of, as Shapiro reminds us referencing Peirce, “that kind of causation whereby *the whole calls out its parts*” [16])—a process that undermines the “parts-determine-the-whole” deterministic bias of the “central dogma” of DNA. Indeed, the extent to which a *diagrammatic* semiotic model incorporates into its structure this “telos of diagrammatization,” this principle of emergence, as the biologists call it (not an easy thing to do), the more power of a heuristic model it will be. Like a living thing, then, language generates its own infinite array of workable (goal-directed) forms of meaning in that triadic process that Shapiro calls the “telos

of diagrammatization” (“diagrammatization” invoking semiosis as a *modeling process*), a modeling process that is not dependent solely on binary models of difference. Indeed, the correspondences among (1) the *triadic* models of heredity, see *The Triple Helix: Gene, Organism, Environment*, by Richard C. Lewontin (2002), and the “replication–transcription–translation” model of the so-called central dogma of heredity involving DNA; (2) the *sign–object–interpretant* relation of Peircean “infinite semiosis”; and (3) the triadic phrase structure (X, X', X'') of Chomsky's X-bar theory (which Coletta [1996] describes in terms of a nonessentializing biology), for example, provide a framework of modeling/semiosis within which the more synchronically oriented binary models of the structuralists may be better understood as diachronic (even goal-directed) triads (see Fig. 43.7).

Arguably one of the most significant steps in the history of the liberatory function of semiotic modeling was that taken by, as Norbert Wiley (1995) argues, the American pragmatists: that step being that they “theorized human beings as semeiotic” (p. 11) and replaced the pseudo-biological models of identity supplied by the social Darwinists with the semiotic models of human thought and identity; they thereby succeeded in explaining “both freedom and equality, giving democracy the foundation it needs in human nature” (p. 17). As Peirce writes, “the word or sign which man uses is the man himself” or “the man is a symbol.” In contemporary terms, as R. C. Lewontin has asserted often, it is *not* all in the genes (1991, pp. 17–37); we are signs. Thus, if the “living” structures and models of the sign (d/t, Signified/signifier (Saussure), Signified/signifier (Lacan), sign–object–interpretant (Peirce), I (present)me (past)you (future) (Wiley)) are models of the human, then people are who they are as they are assigned/as signed. This nondeterministic semiotic basis of the human is one that demands the recoding of our understanding of the code of codes, DNA. Again, as R. C. Lewontin writes, connecting the “language of DNA” with human language, “A deep reason for the difficulty in devising causal information from DNA messages is that the same ‘words’ have different meanings in different contexts and multiple functions in a given context, as in any complex language” (1991, p. 66). Even heredity is interpretive and contextual, a semiotic modeling system. (See Hoffmeyer and Emmeche's “code duality” in Anderson et al. 1991a, pp. 117–166.) However, identity is not arbitrary in a radically uncontrolled sense. As E. San Juan, Jr., writes,

Peirce's concept of semiosis is not the unwarranted extravaganza posited by Derrida because there is in it a continual reference to the object of the representamen/signifier existing in a world outside consciousness, a world manifested in the phenomena of experience mediated by signs. This referent is not a static entity but a dynamic object. (2004)

In conclusion, structuralist, poststructuralist, and semiotic models and modeling more generally have been the means by which scholars have been able both to discover *and* to represent human *being* in nonessentializing, that is, in “semeiotic” terms.

Figures 43.1 and 43.8 thus represent emergent models of semiotic “selving.”

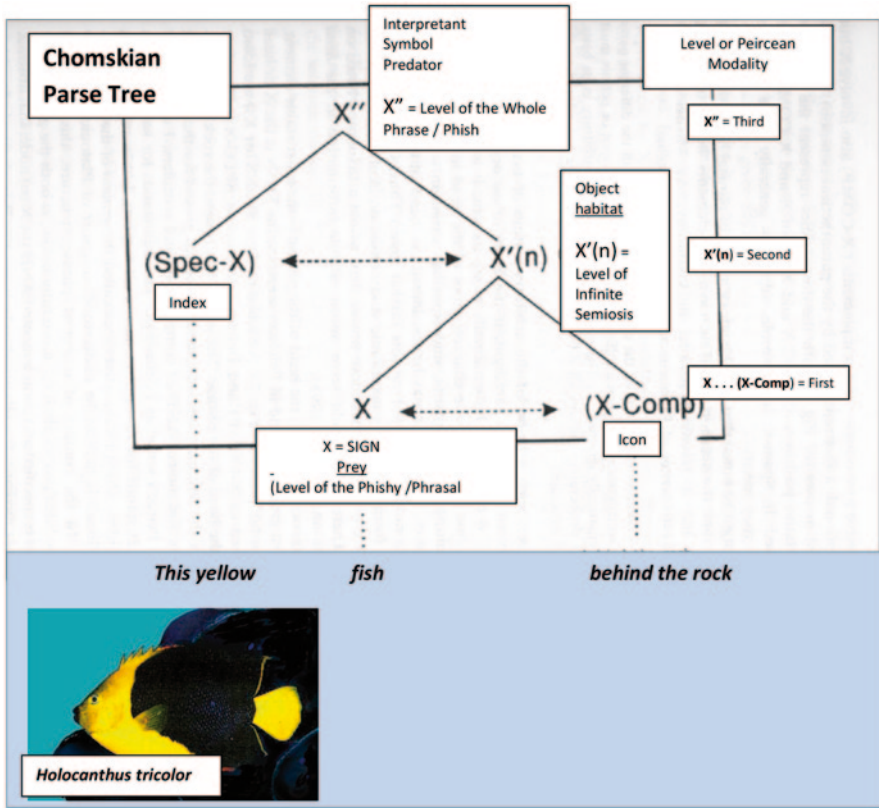


Fig. 43.7 Phishy phrases; or, the correspondence among Chomsky’s universal phrase structure (the three levels of his X-bar theory), triadic Peircean semiosis (sign–object–interpretant and icon, index, and symbol), and the predator–prey–habitat triad of ecology. Figure 3 schematizes in Peircean and Chomskyan terms the ecological argument embodied in the visual syntax of *Holocanthus tricolor*, which represents itself to potential predators not as itself but as an embedded Other (yellow) fish behind a rock (an iconic image of another Other (a rock or coral head), behind which the indexical head (noun) of the fish/phrase is seen (not seen)/read (or not read) by a predator)

43.5 The Pragmaticist’s Guide to Using Models, Part 2

Semiotic models may be constructed, not surprisingly, according to a model, that of the convenient heuristic of particle–wave–field.

In a previous section, we explored the *particles* or elements of semiosis, which elements are useful for representing the structure and function of sign functions; now, we look at semiotic *wave* phenomena, the temporal and “directional” patterns that Anderson Vinícius Romanini calls the “axes of semiosis” and along which may be represented how *objects*, *signs*, and *meanings* or *outcomes* (interpretants) are replicated, transcribed, and translated (as geneticists would say) over time. More precisely, these *waves* or axes represent how *objects* may determine *signs* (called

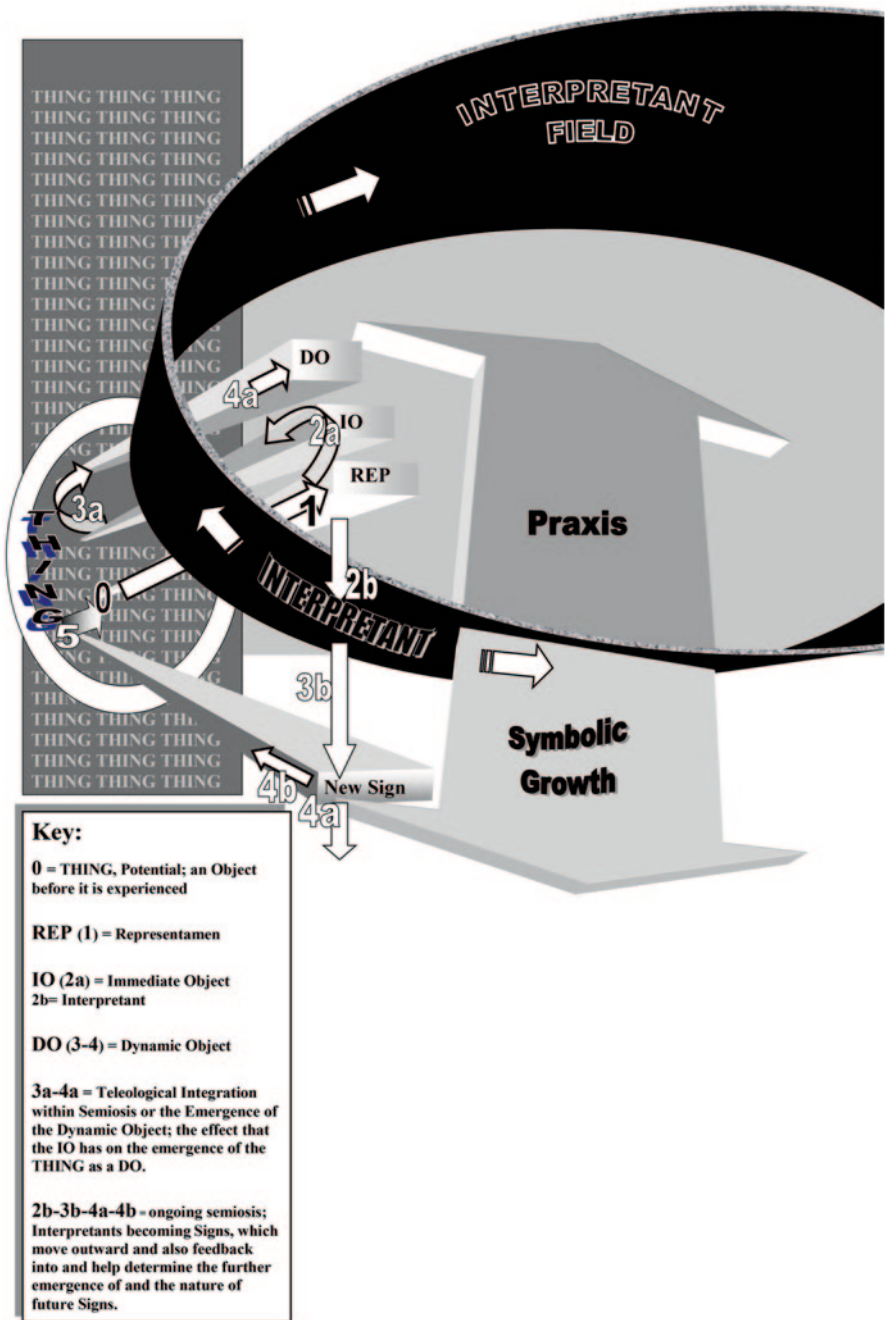


Fig. 43.9 The teleological integration within semiosis of the dynamic object (DO, the experienced thing). In what are Haley's terms: "the ongoing process of sign representation ... constitute[s] kind of evolutionary filtering of the objects possibilities, leading ideally to the emergence of something essential about it in our understanding of it, or in nature's integrated use of it"

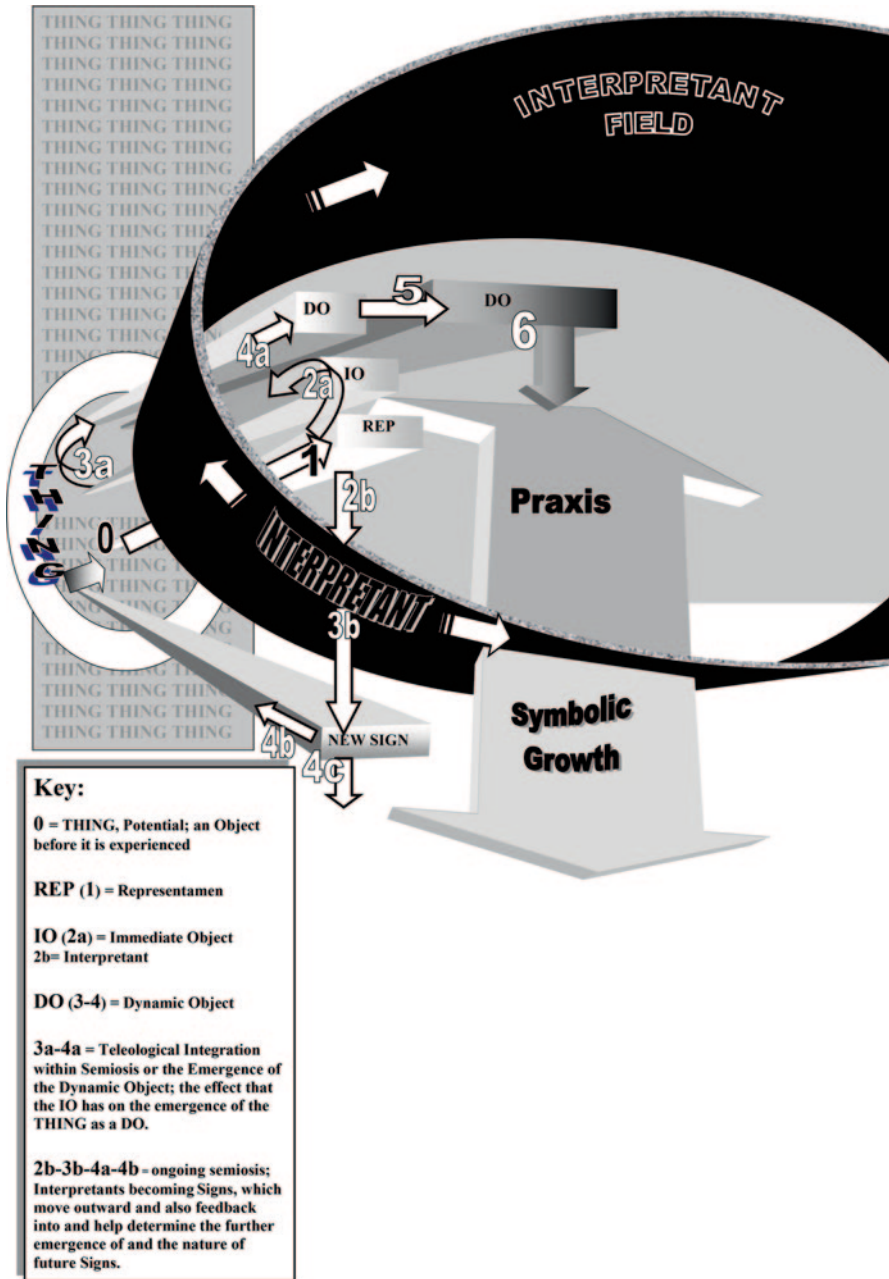


Fig. 43.10 Peircean objectification: The shift from semiosis as a primarily bottom-up phenomenon to a primarily top-down one: once there has been the production of at least one semiotic triad: complete cycle of semiosis (1, 2a/2b, 3a/3b, 4abc), the dynamic object (DO, Kant's "thing-in-itself" made accessible to reason, the romantic subject/object) comes more fully into its own as a DO (5 and 6 at the top of Fig. 43.10)

sider the following example, which explores elements of “objectivation”—as well as of “interpretation” and “signification.” We should not be surprised that objects drive the semiosis along this axis, as my examples below show. However, human artifacts/objects would serve just as well as examples, and the example below does link natural objects with human artifacts.

Mary Oliver writes, in her poem “Egrets,” “a spindle of bleached reeds . . . wrinkled into three egrets” (1983, p. 19). In this assertion, the equivalence “reeds=egrets” is a metaphor, an actual physical isomorphism, and the perceptual flip-flop that a poet, birdwatcher, or egret predator experiences. Since egrets in the natural world have already evolved to look “as” reeds (to escape being seen and eaten), for Oliver to use such a metaphor is merely to allude to or cite a *preexisting* biological “as-structure” or biological metaphor with a linguistic one. When, then, a figure of *speech* (reeds wrinkle into egrets) and a figure of *sight* (again, reeds wrinkle into egrets) are identical expressions, when the figure of sight (the real-world object, *DO*) could even stand as the sign with the figure of speech standing as the object, and thus when *language* itself can be the object and nature the sign, then this, in a pointedly Peircean sense, is to say that language is the interpretant of the signing action of nature, that is, of objectivation.

The above example may be grafted onto “the axis of *objectivation*” below, such that the *IO* and *DO* may be understood as the *preexisting* biological object (and thus *first* in line reading left to right), the *preexisting* biological “as-structure” (the figure of sight in which “reeds=egrets”), from which is spun out ultimately the *S-DO-FI*, the complex outcome in which the *telos* (*FI*) of the *DO* (the reed-like nature of the egret or the egret-like nature of the reeds) is realized as a twinned natural and linguistic object that can protect (*FI*) an egret from predators.

Again, the “axis of objectivation”:

IO → DO → S-DO → S-DO-DI → S-DO-FI

As Romanini writes, “[Objectivation] is the axis of the two objects of the sign (immediate and dynamic), as well as the relations that the *DO* establishes throughout the process of semiosis.” The “relations” of which Romanini are to be understood in the above example as the complex outcomes following from which the *telos* (*FI*) of the *DO* (the reed-like nature of the egret or the egret-like nature of the reeds) is realized as a twinned natural and linguistic object that can metaphorically and literally protect (the *FI*) an egret from predators.

Figure 43.5 illustrates diagrammatic model of another *DO* (a fish called the Rock Beauty (*Holocanthus tricolor*)) working out its semiotic potential along axis 1, the axis of objectivation. The head and tail of the Rock Beauty are bright yellow *objects*; they will also become, along the axis of *objectivation*, indexical signs. As indexical signs generally do, the yellow head and tail call attention to themselves and also orient themselves (and any observer) spatially with respect to some object with which it is connected—see Peirce’s indexical “weathercock” (*CP* 2.286). In this case, the *IO* is the Rock Beauty’s own large, black midsection that breaks its body in two so as to appear to be in front of a yellow fish. This midsection is itself iconic of the spherical surface of a rock or a coral head (*DOs* in the Rock Beauty’s environment). The bound-

ary between the yellow indexical head of the Rock Beauty and its black iconic body roughly describes an arc of some 90%; the arc itself is an index of both the long-term effects of erosion, effects which produce spherically shaped rocks, and the sphericity of coral heads, which heads often form on round boulders anyway, providing a natural base for their spherical growth. Thus, the yellow indexical head and tail and the circular arc described by the boundary between head and body are part of a single indexical and iconic sign complex arising from the *IOs* and *DOs* of the Rock Beauty and its environment. To predators of the Rock Beauty, then, the yellow fish appears to be behind the dark rock or coral head; this effect is heightened underwater when the Rock Beauty is seen against the dark rocks and coral heads of a reef, a reef that contains innumerable nooks and crannies into which prey species are frequently partially or fully withdrawn. In semiotic terms, then, the indexical head and iconic body of the Rock Beauty are signs (*Ss*) that determine various interpretants (immediate interpretant (*II*), *DI*, *FI*, i.e., behavioral and cognitive reactions in the mind of a predator, to refer to the (imagined) all-yellow fish as if it were behind an (imagined) rock (the *DO*); that is, the interpretant (*DI*, *FI*) or predator is determined to refer to objects to which the indexical head and iconic body of the Rock Beauty themselves refer. As Peirce writes, “A Sign is anything which is related to a Second thing, its Object, in respect to a Quality, in such a way as to bring a Third thing, its Interpretant, into relation to the same Object, and that in such a way as to bring a Fourth into relation to that Object in the same form, ad infinitum” (2.92). Given the feigned inaccessibility of the Rock Beauty (a fish that is both sign and in part its own object), the Rock Beauty’s predator or interpretant (say the barracuda) may itself be brought into this relation of inaccessibility and move on to more accessible prey, of which there are many in a reef. Other predatory fish, Fourths, may follow the barracuda’s lead and move on as well. In this sense, the barracuda is a Peircean interpretant not a generalized interpreter; its moving on is itself a sign (and so the barracuda may be modeled as “S–DO–DI → S–DO–FI”) in a new web of primarily ecological signification that is a reef community. The preceding semiotic narrative may be modeled, again, along the “axis of objectivation”:

$$IO \longrightarrow DO \longrightarrow S-DO \longrightarrow S-DO-DI \longrightarrow S-DO-FI$$

2. The axis of interpretation:

$$II \longrightarrow DI \longrightarrow S-DI \longrightarrow S-DO-DI \text{ (Romanini 2006)}$$

This is the axis along which interpretants drive semiosis (see Peirce’s “universal rhetoric”), as happens when we give in to a philosophical mood or mode. For example, as in the previous example, the Rock Beauty’s predator could also solve the complex visual puzzle presented by the Rock Beauty, effectively *detaching* from their objects (*DOs*) the Rock Beauty’s iconic and indexical signs and thereby changing the status of those signs from motivated icons and indices to unmotivated symbols (thus bringing about the “perception catastrophe” of which Thom (1990, p. 61) speaks). This detachment of icons and indices from their objects and the resultant production of arbitrary symbols, consummate acts of interpretation, are at

the heart of the evolution of syntax and predication. Models of predation = models of predication. Of course, the iconicity of the rock-like marking that appears on the body of the Rock Beauty is enshrined in its English name, as is a judgment about its aesthetic value. Indeed, the protection of the beautiful reef fish, as well as the substrate of the reef (its rocks and coral heads (*DOs*)), is a function of this aesthetic coding—and so, as we detail later, *DOs* such as rocks have gotten themselves written into biological, aesthetic, and legal codes. Objects (rocks and rock beauties) have become objectives (protect the reef made of coral, rocks, and rock beauties) by means of the force of the interpretant function. As Michael Haley writes,

What keeps the Sign and Object from collapsing into one another (and yet at the same time keeps them connected in ways that can be examined critically) is the Interpretant. Thank Goodness we do not and cannot “think Objects.” We think about Objects with Signs, and it is for this very reason that we can even think about thinking about Objects with Signs! The part of Mind that permits this self-critical thinking about thinking (or the part of Nature that enables an analogous form of evolutionary checking on every event of re-presentation) is the Interpretant. (1999)

The “axis of *interpretation*,” then, models this trajectory whereby interpretants determine new signs, *DOs*, and other *DIs*, primarily by *detachment* of signs from objects. Poet Theodore Roethke, in “The Shape of Fire,” writes “A toad folds into a stone” (1975 [1948]: 61), transcribing a preexisting biological “figure of *sight*,” one that serves to protect toads from predatorial “interpreters,” into a poetic “figure of *speech*.” Just as the act of poetic imagination collapses toad and stone, sign and object, into one another while at the same time keeping the ontological separation of toad and stone/sign and object always already in place (otherwise there is no “magical” poetic metaphor of a toad escaping down the “rabbit hole” of a stone), a snake or raccoon, if would eat, must perceptually detach the stony-looking toad from a stone and producing the “*S-DO-DI*” “lunch” or like a good reader of Theodore Roethke’s poem, who, by learning to fold toad into stone and stone into toad creates for herself an ecological and aesthetic “*S-DO-DI*”: literary *critical* detachment. This process of *detachment*, then, is what is modeled along the “axis of *interpretation*,” and is what keeps always communication open: As Romanini writes, “*S-DO-DI*” “is the effect produced indeed by the triadic communion among sign, dynamic object, and dynamic interpretant, or the way of fluency of communication” (2006; in the “axis of *interpretation*” as represented again immediately below, *II* = immediate interpretant; see above for other abbreviations).

II → DI → S-DI → S-DO-DI (Romanini 2006)

3. The axis of signification:

This is the axis along which the *sign* drives semiosis (see Peirce’s “semeiotic grammar”). As Peirce writes, “a sign is not a sign unless it translates itself into another sign in which it is more fully developed” (CP 5.594; qtd. in Liszka 24). The “axis of signification” is modeled as follows:

S → FI → S-FI → S-DO-FI (Romanini 2006)

Romanini writes, “It is the axis of the telic development of the sign towards the final opinion.” While such *telos* is clear in conscious and intentional human communication, this Peircean axis as represented by Romanini allows us to see how for Peirce even nature is a signing agent, and so again I choose to illustrate “the axes of semeiosis” using examples of how, in this case, *natural* signs can drive the emergence of more developed signs.

The early metabolic process of fermentation produced a waste product (CO_2). CO_2 had at that time scant indexical or iconic value. Furthermore, chemists tell us that when the “end product” of any process is inhibited (not enabled to react further), that process will ultimately fail (end-product inhibition). (This is true of “the axes of semeiosis” as well.) In Raimo Anttila’s and Peirce’s terms, CO_2 was a sign (*S*) in the process of becoming a “symbol”—a sign that has lost its resemblance to (iconicity) or real physical relationship to (indexicality) its signifying or ecological context or environment—its object. As Anttila writes, iconic indices “tend to become independent from the environment (symbolic), particularly if the environment is lost” (1992). However, photosynthesis reinvented CO_2 as an iconic and indexical sign (**S** → **FI** → **S-FI** above), that is, photosynthesis evolved to use the waste CO_2 , and so photosynthesis became the ecological and semiotic context or environment of CO_2 ; photosynthesis was, then, the biogeochemical icon of a new environment for which the early fermentation is now merely symbol, the original environment of the fermenters having been, in the main, lost. The waste product of photosynthesis, O_2 , was itself subsequently without an iconic or indexical relationship to its signifying or ecological environment. Respiration, however, evolved to use the waste O_2 , and so respiration became the enabling context (or interpretant) of O_2 . In other words, each new environment (“new” because life has altered it chemically) is a new interpretant/sign that “determines” the success of new biochemical configurations. The new biochemical configurations then change the environment, so that the determiner is now the determined. O_2 , the deadly environment for early life-forms, becomes the indexical wind of respiring organisms, which evolve as new icons of an oxygen-rich rather than deadly environment. Living things create the challenges to which they respond.

Broadly speaking, the evolution of life on earth may be seen in terms of the action of signs (or semiosis, the signing action of nature)—and we may plot this evolution on the “axis of signification.” Perhaps the central event in history of life’s attempt to establish itself as a viable, ongoing experiment was, as mentioned above, the ecological displacement or reconfiguration by photosynthetic and respiring organisms of those organisms that used fermentation as a metabolic process, organisms that still exist but that have been, literally, *reassigned*. As is widely known in the biological sciences, the evolution of photosynthesis was based in part on the “stretching” or mutation (or dissipation) of the heme molecule: Chlorophyll is a mutated heme molecule. Indeed, as Anttila writes, “This is general in evolution. Units adapt to their environments by indexical stretching to produce an icon of the environment” (1992). This stretching is precisely what the “axis of signification” shows. Hemo-

globin, the oxygen-carrying molecule necessary for respiration, is itself based on the heme molecule, which historical relationship is encoded in the word “hemoglobin.” Indeed, the heme molecule is central to both the evolution of photosynthesis (chlorophyll) and, later, respiration (hemoglobin); in fact, without the evolution of the latter, the former would not have been sustainable. And so, from a molecule's point of view, life is a function of the expressiveness of the heme molecule, of the heme molecule's capacity to be reinvented. As such, it is a “teleophor” (the *S-DO-FI* of the “axis of signification,” the *FI*, Peirce's final interpretant, indicating the teleological dimension that special kind of metaphor (physical, chemical, biological, or linguistic) that possesses (presumably, from its origin) a rich teleological potential for ongoing, multiple re-interpretations, a potential that thus helps it to survive as metaphor by allowing it to adapt its meanings continually to its changing cultural environments. More profoundly, the teleophor's (*S-DO-FI*'s) inherent potential for multiple meanings also helps to create those cultural environments. This inherency need not be understood in essentialist terms; as we shall see, teleophors are Peircean *DOs* (that is, things after they have been picked up in semiosis (that is, experienced or somehow further integrated into a diagram of revolving relation) to the end that they become more and more real (reality grows along the “axis of signification) and more and more likely to be picked up within other semiotic processes—though the separation of the thing from the experienced thing (the object) and the separation of the concept of the thing (“IO”) from the experienced thing (the DO) always remains.

The heme molecule, then, is a *scheme*-atic or diagram of the possible or probable shapes of change. (Michael Shapiro's discussion (1991, pp. 48–91, passim) of the telos of diagrammatization in linguistic change is relevant here.) Life, through a strange-attractor-like recursivity, through the “stretching” of the heme molecule, alters its environment to meet its needs and pulls itself up by its own bootstraps. This process whereby “natural systems,” as Laszlo says, “create themselves in response to the challenge of the environment” (1972, p. 46) or whereby they “adapt the environment to [their] needs” (Lovelock) is central to Charles Sanders Peirce's sense of “final causation.”

The heme molecule and its various permutations, then, are alternately indices of each other, and when (or if) the earlier environments are replaced by later ones (as the composition of the oceans and atmosphere is altered by the evolving processes of life), these indices, as I mentioned above, like linguistic units, “tend to become independent from the environment (symbolic), particularly if the environment is lost” (Anttila 1992). This diagrammatization of evolution through the agency of the heme molecule (the Ur-sign) is one way of giving an ecological and evolutionary body to Peirce's sometimes enigmatic assertion from his *Detailed Classification of the Sciences*:

All natural classification is then essentially, we may say, an attempt to find out the true genesis of the objects classified. But by genesis must be understood, not the efficient action which produces the whole by producing the parts, but the final action which produces the parts because they are needed to make the whole. It may be difficult to understand how this is true in the biological world, though there is proof enough that it is so. (*Collected Papers* 1902: 1.227)

Evolutionary biology, I believe, makes Peirce's notions of efficient and final actions (or causes) less difficult to understand: indeed, evolution (Peirce's "final action") "calls out its parts" (1902:1.220) in an inside-out manner as we have seen with the heme molecule.

43.6 What Is it That May be Modeled?

In less theoretical terms, we may ask now, in an explicitly semiotic context, what is it that may be modeled, "[g]iven the supposition that all models are iconic signs" (Houser 1991, p. 434)? I posit the following: we may create models or icons of:

- Semiotics itself: both the structure of the field of study and its relationship to other fields of study
- Sign functions: the structure of the signifying units themselves within various environmental and perceptual fields, what Nöth (1995) classifies as the "dyadic, triadic, and other models of the relata" (83). Importantly, as an ever-present reminder of the potential essentialisms and attendant fascisms that lurk behind attempts at modeling signs and semiosis, Nöth writes in his *Handbook of Semiotics*: "A monadic view of the sign which neglects to differentiate between sign vehicle and meaning occurs only outside of the theory of signs. It is characteristic of magic and unreflective modes of sign manipulation" (83)
- Communication chains, circuits, and feedback loops
- Sign fields: the environmental and perceptual fields within which and from out of which signs may be said to emerge, fields understood as existing "at," "below," and "above" the level of the sign itself.
- Semiosis: the action of signs and sign fields, what Myrdene Anderson and Floyd Merrell call "the complementation, the provisionality, the counterfeit involved in open-ended synergies" (1991b, p. 4), and thus thought and behavior, social interaction, and organizational development (anthroposemiosis); certain physical and chemical phenomena that are presently categorized in terms of self-organization (physiosesemiosis); plant relationships and communication (phytosemiosis); and animal ethology and communication (zoosemiosis). See Fig. 43.5 for a Peircean model of semiosis that combines Peircean synechism (the "doctrine of continuity" (Colapietro 1993); the belief that between any two supposed phenomena there is always a third, a belief that undercuts essentialism) and tychism (the doctrine of absolute or objective chance" (Colapietro 1993)), thereby illustrating the intertwined emergence of firstness (feeling), secondness (fact), and thirdness (law) with the emergence of signs, objects (that which signs stand for), and interpretants (the outcome of signs for someone or thing, outcomes that are themselves signs, and so on). Figure 43.1 also models the emergence of the DO (a thing or phenomenon as it is experienced and as it grows in response to interpretations; in this case a grasshopper's locust self) within the interpretant "shell" or "field" of a to-a-large-extent self-engineered set of enabling influences or "affordances" (in this case a pheromone secreted by a grasshopper when that

grasshopper senses overcrowding, a pheromone that causes the grasshopper egg to interpret its own DNA as a “becoming locust”). Also, Fig. 43.1 models how the DO (the emerging locust) becomes more and more semiotically powerful (real) and comes to exert a top-down control over various other dimensions of the unfolding sign process. The grasshopper in Fig. 43.1 is a type of the “evolutionary message” (Hoffmeyer 1993/1996, pp. 20–24) or hypothesis about itself that characterizes most all signing structures (entities) involved in semiosis.

In more detail, we may model:

- How signs relate to other signs both diachronically and synchronically
- How signs relate to signals, pulses, and “bumps” (that is, to “presigns” and “non-signs,” to forces and things)
- How signs relate to or emerge from the fields or contexts (again, environmental and perceptual) within which they are enmeshed
- How semiotics as a field fits within knowledge schema generally

43.7 The Pragmatist's Guide to Using Models, Part 3

Models may be built according to the convenient heuristic model of particle–wave–field. Sections II and IV dealt with semiotic *particles* and semiotic *waves*, respectively. In this section, we look at semiotic *fields*, the larger contexts within which semiosis and semiotic modeling unfold.

Semiotic models may be understood as operating in at least four dimensional fields within the field of the “semiophysics of graphical space.” We may understand:

1. *Diagrammatic Models as Egalitarian Agents of Liberation*: As discussed above, the structuralist understanding of the common forms (structures/models) underlying all human language and systems of thought removed any grounds for racism or sexism. Indeed, the “semiotic self” as posited by the American pragmatists undermined the racist theories of the social Darwinists.
2. *Diagrammatic Models as Agents of Discovery*: Models both *order* concepts and *direct* think. The best models order concepts and direct thinking beyond themselves and the intentions of their creators. Models are best understood as *abductions* that are themselves then subject to environmental pressures with respect to their usefulness and then if warranted are filled in with inductions and deductions.
3. *Diagrammatic Models as Registers of the Habits of Space–Time Dimensionality; or Diagrammatic Models as Agents of Their Own Transformative Making, Indeed of the Material Agency of Model and Matter*: Models exploit the spatial and temporal logical dimensions of their existence; that is, the best models unfold over time and in space as do that which they model; indeed, this is what they in fact model. For example, Coletta (1992) uses diagrammatic models to

show how the ecological *parts* of the model of ecosystem structure, function, and evolution are actually evolutionary *steps*. Parts=steps in the most integrated and robust models. In fact, the process of creating a model of the generalized structure of a functioning ecosystem (that is, attempting to represent ecosystems in terms of their shared minimal parts) led to an insight that is best understood as having been represented diagrammatically not intentionally as a register of the nature of ecosystems themselves, again, that any attempt to represent the minimal constitutive parts will necessarily end up in delineating the steps that lead to the system's constitution, as natural systems evolve by having each diachronic representation of the system represent a re-presentation of how it got that way: parts=steps. This is a habitual equivalence that nature has come to acquire in its evolving efficacy. *Steps*, in nature or in models of nature, that do not ultimately become *parts* are of a different order, having not yet acquired the "proper" habits.

Einstein writes (1919), "The geometrical behavior of bodies ... depend on gravitational fields, which in their turn are produced by matter." Matter, then, produces the conditions for its own mattering, what Einstein calls "the behavior of bodies" and "the motion of clocks" (emphasis added) and for which he uses the phrase "which in their turn." This relativistic separation and unity, i.e., matter's independence from and dependence on itself—that is, matter's in/dependence being a function of the in/dependencies that it itself produces and imposes—is fundamental to semiosis and serves to ground semiosis in the physical constitution of the universe. Gravity, then, is the Ur-interpretant; that is, gravity is the original field phenomenon within which objects create the very fields which then influence and determine (more or less) the trajectories of those objects. In the preceding statement, we find very much the same syntax that we find in Michael Cabot Haley's definition (1999) of the Peircean interpretant as "the proper significate outcome of any sign-action, which thereby mediates (ratifies or validates) the sign-object relation, revealing it for what it is (i.e., a significant relation) and contributing to the actual emergence or unfolding of its potential meaning." Gravity, likewise, is the Ur-interpretant in that it represents a framework of in/dependence created by the very matter that is dependent on the framework. Gravity also keeps *mass* and *weight* (like sign and object) open to productive difference, which difference is the material instantiation of the distinction between a representamen and a sign, a thing and an experienced thing (a Peircean object). In this (what I call) "material irony"—that is, in matter's unity with and separation from itself (the "with/from function"), in matter's being in effect always already part of a sign (at least of itself)—object relation, that is, in its being a determinate sign of itself through its creation of a field of influence within which it may actualize its potential as an object—is the very origin of the possibility of semiosis.

Peirce's definition (model) of the sign combines the causal language of physics with a theory of information (semiotics) and so recovers the matter-energy-information *triad* that has traditionally been squeezed out of the matter-energy *binary* obsession/opposition of the physical sciences. Such a recovery is fundamental to an

understanding of physiosemiosis. As mentioned, “physiosemiosis,” a term coined by Deely (1990), is a name for the process whereby the physical universe *organizes* itself by *making* itself capable, through the action of signs, of recording and then taking advantage of its own history. The most robust semiotic models must, then, represent semiosis as both registers of the habits of space–time dimensionality and as agents of their own transformative making, indeed of the material agency of model and matter.

4. *Diagrammatic Models as Registers of the Causality of the Non- and Preexistent*: “Diagrammatic logic” and “existential” graphs actually exploit the physical logic of material relation in the world and even serve to represent the ways in which “possibility” is “modally real” (see Corrington 1993, p. 56). For example, concerning the necessity, sufficiency, and reality of Peircean triadic logic and semiosis, Haley (1999), writing on the “reality of abstraction,” articulates the logical underpinning Peirce’s “existential graphs,” which graphs Peirce understood as “governed by a system of representation founded upon the idea that the sheet upon which it is written, as well as every portion of that sheet, represents one recognized universe” (1958 [1903] CP 4.421).

“Besides, as you know, Peirce showed with his existential graphs that you can derive graphs of any valence from triads (where valence = future combining power or “growth potential”): By combining only monads (valence 1), you can get only a medad (valence 0). (Moral of story: If you’re a monad, don’t marry another monad, else the both of you will end up as nothings.)

$$\begin{array}{l} x- \quad + \quad -x \quad = \quad x-x \\ \text{monad} + \text{monad} \quad = \quad \text{medad} \quad (\text{no open ends for future growth}) \end{array}$$

By combining a monad and a dyad (valence 2), you can get only another monad. (Moral of story: If you’re a dyad, don’t marry a monad, else you’ll wind up a monad yourself . . . without even having improved the status of your mate.)

$$\begin{array}{l} x- \quad + \quad -x- \quad = \quad x-x- \\ \text{monad} + \text{dyad} \quad = \quad \text{monad} \quad (\text{only one open end for further growth}) \end{array}$$

By combining dyads, you can only get more dyads. (Moral of story: If you’re going to marry, marry up.)

$$\begin{array}{l} -x- \quad + \quad -x- \quad = \quad -x-x- \\ \text{dyad} \quad + \quad \text{dyad} \quad = \quad \text{dyad} \quad (\text{only two open ends for further growth}) \end{array}$$

So, using only monads and dyads, you can never get a higher valence than what you started with. But once triads are introduced, you can construct graphs of any higher valence.

$$\begin{array}{l} -x= \quad + \quad -x= \quad = \quad -x-x= \\ \text{triad} \quad + \quad \text{triad} \quad = \quad \text{quadrad} \quad (\text{four open ends for further growth}) \end{array}$$

Thirdness really does seem to be the minimal key to growth. It’s almost like the stages of language-acquisition in childhood: There is a clear and distinct one-word stage, a clear and distinct two-word stage, but when the child gets to what ought to be a three-word stage, all heck breaks loose, and the child can suddenly make sentences of any length.” (1999)

Haley demonstrates here, in clear Peircean terms, what we can only call *the causality of the non- and preexistent*, the underlying logic of limitation and symbolic growth in the universe. Peirce thus presents us with a vision of the universe that we might call the “virtoreal.” Modelers need to work within the Peircean logic of the virtoreal, of his existential graphs, when developing their models.

MST (Sebeok and Danesi 2000) represents a vision that also breaks down the false distinctions between the “actual” and the virtual; Niels Bohr represents physics as representative of a similar vision: “It is wrong to think that the task of physics is to find out how nature *is*. Physics concerns what we can *say* about nature” (qtd. in Peterson 1963). Modeling can tell us not what nature is but what we can *say* about it.

According to MST (Sebeok and Danesi 2000), the four broad types of forms or models are “singularized, composite, cohesive, connective,” in more familiar terms, sign, text, code, metaphor. “From this axiom six principles follow,” write Sebeok and Danesi,

- “The modeling principle”: There is no representation without modeling
- “The representational principle”: “Knowledge is indistinguishable from how it is represented” (2000, p. 11)
- “The dimensionality principle”: “Modeling unfolds on three levels or dimensions” (2000, p. 11); iconicity and indexicality “are prior developmentally and cognitively to symbolicity” (2000, p. 11);
- “The extensionality principle”: “Models and their meanings are derivatives of simpler (more concrete) ones” (2000, p. 11)
- “The interconnectedness principle”: “Models and their meanings are interconnected to each other” (2000, p. 11)
- “The structuralist principle”: “All models display the same pattern of structural properties” (2000, p. 11)

These principles of MST collapse the distinction between writing about the world and writing the world, between models of the world and the world as model.

In conclusion, one good litmus test for the robustness of a semiotic model, that is, for its internal logical consistency, for its descriptive power, for its ability to enact a world, and for its intertextual relations with other models is the extent to which the six principles of MST may be said to hold for it.

Several Good Primers Exist on Semiotic and scientific Modeling

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W. John Coletta is a professor of English at the University of Wisconsin-Stevens Point. A former president (2010) and vice president (2009) of the Semiotic Society of America, Professor Coletta's principal research interests include Peircean semiotics, the work of Umberto Eco, eco- and biosemiotics, ecocriticism and postmodernism, the history and representation of ecological and evolutionary thought, the major British poet and minor naturalist John Clare, Samuel Taylor Coleridge and his theory of the symbol, and posthumanism and "critical animal studies." Professor Coletta is on the Editorial Board of *The American Journal of Semiotics*.

Chapter 44

Semiotics of Computing: Filling the Gap Between Humanity and Mechanical Inhumanity

Kumiko Tanaka-Ishii

44.1 Signification

This chapter aims to overview the frontier of application of semiotics to computing and discuss its signification, milieu, and future. Such an overview of the semiotics of computing suggests future paths that could form a research domain under the name of *computational semiotics*. Research in this domain could reveal the advantages and disadvantages of human signs in comparison to mechanical signs, so that machines could be designed better to support human semiosis. At the same time, such comparison could also provide better understanding of the nature of signs and sign systems as an epistemological tool.

Before overviews the current train of thought on this topic, I first examine the signification of the semiotics of computing. The marriage of computing and semiotics would bring signification to both fields, as shown intuitively in Fig. 44.1 and also as explained in the following two subsections.

44.1.1 Formalization of Semiotics Through Computing

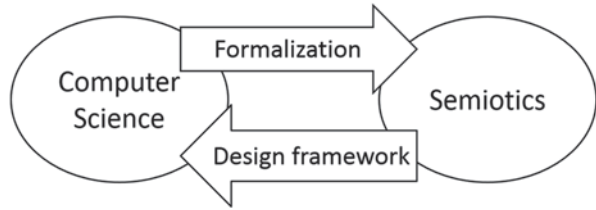
The purpose of semiotics, in general, is to explain signs and sign systems and describe their general characteristics and structure, and thus, to establish a methodology for their explanation. Underlying these considerations is the question of the meaning of meaning, or how signs convey meaning. The object of semiotic analysis has traditionally been sign systems for human interpretation: natural language, text, communication, code, symbolic systems, sign language, and various art forms.

This means that such semiotic studies must be conducted without a clearly delineated separation between the sign system to be analyzed and that used for its study.

K. Tanaka-Ishii (✉)

Department of Advanced Information Technology, Graduate School of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan
e-mail: kumiko@ait.kyushu-u.ac.jp

Fig. 44.1 Signification of semiotics applied to computing



As a consequence, a solid theoretical foundation for semiotics has yet to be established. For example, even considering models of signs alone, various philosophers have each presented their own ideas, and how these ideas correspond has remained unclear.

This weakness of the semiotic domain, however, could be remedied through its application to new semiotic targets. This viewpoint has emerged recently and appears rigorously in this handbook. The new semiotic subjects are free from this difficulty of separating method and target, and computing is one such subject. Computer sign systems have the marked characteristic of having their own interpretive system, namely, the central processing unit, which is external to the interpretive systems of natural languages.

Readers might think that there are other open, explicit artificial notations, such as those of mathematics, logic, and even music and dance. These notations, however, are still meant for human beings to interpret. For example, mathematics constitutes another well-formed, rigorous sign system, but it is ultimately interpreted by human beings, and thus certain repetitive elements are frequently omitted.

In contrast, every computational procedure must be exhaustively described through a computational notation system, inclusive of all repetitions, so that the processing comes to a halt and is valid for the intended purpose. Since computing is a mechanical interpretive process, it is explicit, well formed, and rigorous. In fact, computing is the only existing large-scale case of semiosis with an explicit, fully characterized interpreter external to the human interpretive system. Applying semiotics to computing, therefore, can help *formalize theories* of semiotics. That is, understanding the semiotic problems in computing could lead us to formally reconsider the theory of signs.

Such formalization of the fundamentals of semiotics would above all facilitate versatile application of the theory to different kinds of semiotic targets. As Foucault (1969) indicated, human thoughts have become more and more virtualized through history, drifting further away from actual objects. Semiosis provokes further semiosis, and especially with the Internet, it could be said that we are living in a sea of signs. To navigate better in this sea, therefore, ingenious semiotic ideas appearing historically in the philosophical literature must be assimilated to form an abstract, solid theory.

44.1.2 *Humanistic Design of Computing Through Semiotics*

Computers are now indispensable in our daily lives. People have attempted to describe various conceivable phenomena through computing in order to meaningfully analyze, synthesize, and predict reality. Although computing itself means interpretation by machines, computers are controlled by humans and the results of computation are for human use.

Many of the concepts, principles, and notions of computation, however, have derived from the technological needs and constraints of hardware design. The current status of computing has not been situated under a broader human context, resulting in uncontrollable systems and badly designed applications, which could be considered to represent *mechanical inhumanity*. At the same time, the development of computational systems has included rediscoveries of ways to exploit the nature of signs that had already been present in human thought.

The application of semiotics to computing could therefore help situate certain technological phenomena within a humanities framework, enabling better computational system design. To the extent that computer programs are formed of signs, they are subject to the properties of signs in general.

Semiotic discussion of computing has sought to provide a possible explanation of why computation and current computer systems have necessarily converged to their current status and of how computation is fundamentally related to human semiosis. Further, this discussion could facilitate schemes for generating better computing design, in terms of various aspects from a humanistic viewpoint.

The application of semiotics to computing can thus bring benefits to both domains. The following section surveys the studies conducted so far at this intersection of semiotics and computing.

44.2 A Survey

The earliest mention of this topic was a brief four-page article appearing in *Communications of the ACM* (Zemanek 1966), which emphasized the importance of semiotic analysis of programming languages. During the subsequent years, there has been evidence of a growing interest in semiotics both on the part of those concerned with computer science and on the part of those applying information technology in the humanities. Such works have appeared in three different forms of literature, as follows. The first form consists of books, with representative examples mentioned later in this section. The second consists of journal articles, archived mainly in *Semiotica* and *Minds and Machines*. The third form consists of conference articles: continuing and active milieu include organizational semiotics and the World Congress of Semiotics (IASS-AIS), and there have been other minor but important meetings such as Conference on Computational Semiotics for Games and

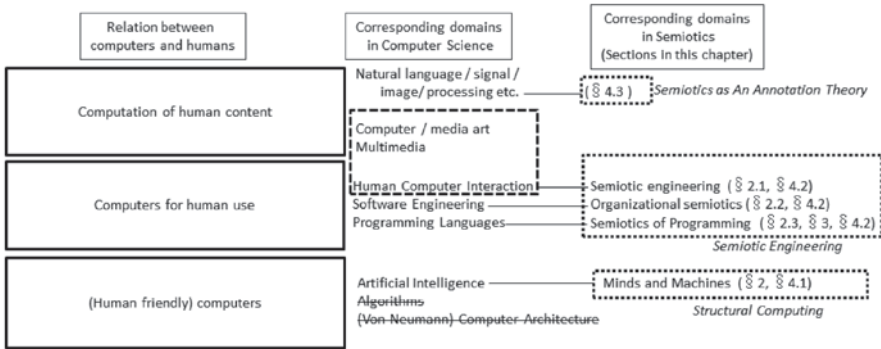


Fig. 44.2 Correspondence of the computer science and semiotic domains

New Media (COSIGN) and workshops at conferences related to human–computer interaction (HCI), such as the Human–Computer Interaction Institute (HCII).

This section briefly summarizes the studies conducted so far within these areas. The overall map of the discussion with the corresponding sections of this chapter is illustrated in Fig. 44.2. I first subdivide the domain of computing in relation to humanity, as appearing in the first column of the figure, in order to consider what discussion is possible overall.

Studies of computing can be roughly subdivided into three categories, as follows, from the viewpoint of the relation of computing to humanity:

- The study of computers and calculation themselves.
- The study of computers for human control and use.
- The study of human-created content processed on computers.

Each subdivision consists of research categories of the computer science domain as follows, as shown in the second column of Fig. 44.2. The first research category aims to produce computers with faster speed and greater efficiency: related subdomains of computer science include circuit design, computer architecture, and algorithms. This category could also include issues of improving computer mechanisms from a more humanistic viewpoint, such as artificial intelligence. The second category seeks better use of computers by humans and is related to the subdomains of programming language design and related software, HCI design, and software engineering. The third category concerns all areas in which human-created content is processed on computers, such as the domains of natural language processing, image processing, and signal processing. Multimedia, games, and computer and media art could also be included here, although these are also strongly related to the second category, from the viewpoint that such content tends to have a dynamic, interactive interface.

Note that these categories are *not orthogonal* but relate to each other and overlap: content cannot be processed without assuming some human use and human control and the use of computers also concerns aspects of computer architecture.

Semiotics as the study of meaning applies to the computing domain from a humanistic viewpoint.

Early attempts applied semiotics to different aspects of computers in single-volume books. Representative of such studies are those by Andersen's group (Andersen 1997; Andersen et al. 1993). Their achievements can be considered as the first consistent body of literature showing the potential of semiotics when applied to computers. Following the subdivision of computer science, the semiotics applications have also evolved to encompass more finely grained subdomains, and such research is currently conducted in terms of different aspects of computing. One possible subdivision can be made according to the subdivision of computer science explained above, as appears in the last column of Fig. 44.2.

In the first category, studies seeking to exploit the current von Neumann computer architecture have little relation to semiotics. In contrast, studies on rethinking computers from a more humanistic view have a significant relation to semiotics. The latter studies include proposals with respect to computing architecture, as presented in Maturana and Varela (1980) and Etxeberria and Ibáñez (1999), and also semiotic interpretation of various artificial intelligences, as in Meunier (1989). As seen from these works, such discussions date back to the 1980s, in conjunction with the popularity of the artificial intelligence domain at that time. Another train of thought is philosophical and considers the distinctions between machines and humans. Since Dreyfus (1972), this consideration has recurred, with recent publications appearing in *Minds and Machines*. The main theme is to compare the process of calculation (or a Turing machine) with human thought and interpretation. Kary and Mahner (2002), Hauser and Rapaport (1993), and Skagestad (1996) philosophically consider shared and unique aspects of human and machine. Krajewski (2012) considers the Turing test as a means of delineation. Horst (1999) and Queiroz and Floyd (2009) model human thinking in terms of computation, which is part of the recent academic trend of attempting to computationally model human thought. Lastly, Kary and Mahner (2002), Hauser and Rapaport (1993), Milkowski (2012), and Broderick (2004) consider the problem by focusing on the interpretation. Although these kinds of discussions help comprehend the problem of the mind, they have had little direct influence on the computing domain. Moreover, none of these discussions has been centered in semiotics with respect to computing. Still, such works partly demonstrate the potential of semiotics as a tool for considering aspects of computing and human semiosis. They also provide a basis for future consideration, to which we will return in § 44.4.1.

The application of semiotics is currently most widely discussed in the second category. This follows from the ubiquity of computing, with computers and smartphones now being commonplace. Here, the application of semiotics has the possibility of directly influencing computing design. In coordination with the computing subdomains, there are three major subdomains within semiotics of computation as well, namely, HCI, software engineering, and programming languages. I summarize these trends in more detail later in this section.

In contrast to the first and second categories, the application of semiotics in the third category has the characteristic that human-created content—including text,

audio, images, and video—had existed before computers. Semiotics has long been applied to analyze this type of content. Therefore, the discussion here is exclusive to novel content types including hypertext, multimedia, and computer/media art.

Since these targets cannot be considered without addressing their characteristics of being dynamic and interactive, the discussion, therefore, tends to occur in the subdomain of user interface semiotics. I briefly summarize this trend in the following subsection. In fact, computer processing of human-created content has a strong relation to semiotics, although so far neither computer science nor semiotics has seemed to explicitly consider this relation. Indeed, I consider there to exist potential for semiotic discussion in every computer science subdomain dealing with human-created content. I return to this point at the end of this chapter, in § 44.4.3.

To sum up, recent emergent studies on the application of semiotics in computing relate to all three categories of computing research from the human viewpoint. Nevertheless, the current trend especially concerns the second category, of studies on computing for human use. The following three subsections briefly introduce research on the three main areas within this category: HCI, software engineering, and programming languages.

44.2.1 *Semiotics Applied to HCI*

The application of semiotics to HCI serves to understand the nature of the man–machine interface and eventually could suggest better designs. Semiotic studies of multimedia and computer/media art are often included in this area because they are interactive, similar to HCI.

Discussions of semiotics applied to HCI have been published since the 1980s, as seen in Nadin (1988). With the establishment of graphical user interfaces and the recent popularity of portable devices, however, publication on this topic has increased over the past 10 years. One train of thought emerging from this trend is semiotic engineering, coined by de Souza. According to her book (de Souza 2006), semiotic engineering is a theory of HCI, presenting “an extensive and distinctive characterization of HCI, to provide a consistent ontology from which frameworks and models of particular aspects of HCI can be derived, and to spell out epistemological and methodological constraints and conditions applicable to the spectrum of research that the theory can be expect to support.” In other words, semiotic engineering is a basis for using semiotic theories to consider what HCI and its components are supposed to be.

The central theory adopted here is that of Jacobson’s model of communication space, as shown on the left side of Fig. 44.3, taken from de Souza (2006, p. 66, Fig. 2.9). de Souza explains how the activity of HCI design can be understood as *meta-communication*. She then defines the HCI design space in semiotic engineering, as shown on the right side of Fig. 44.3, taken also from de Souza (2006, p. 88, Fig. 3.2). The figure shows how design is indeed a process of “communication about communication,” with the designer defining communication between sender

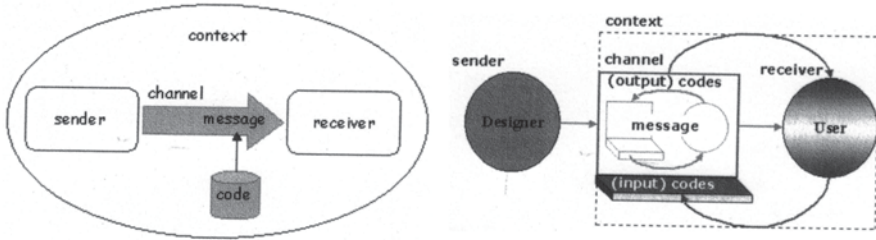


Fig. 44.3 Jacobson's communication space model (*left*), and the HCI design space in semiotic engineering (*right*). HCI human–computer interaction. (From de Souza 2006)

and receiver as communication between the user and the computer. This framing enables deduction of the entities involved and questions considered in HCI design. The second half of her book gives example applications of this theory to individual HCI designs.

Apart from the broader concept of semiotic engineering, there are a number of individual applications of semiotics to HCI. Each of these involves selecting an original framework in semiotics and applying it to a certain aspect of HCI for discussion. Many individual papers have been published on semiotically interpreting concrete HCI applications, such as interpretation of sounds in HCI (Nam and Kim 2010), contexts involving HCI (Connolly et al. 2008), discourse interfaces (Connolly et al. 2006), and blog interfaces (Scolari 2009). There have also been works considering HCI at a higher level, as in O'Neill (2009), interpreting HCI with a focus on interaction.

Moving on to computer/media art and multimedia, COSIGN was an international conference on computational semiotics for games and new media, held from 2001 to 2004. In total, about 100 papers were presented there, one fifth of them posters. The term *computational semiotics* was first coined at that conference, although the committee's intention had leaned towards interactive computer/media art and multimedia. Many interesting papers were presented, with a focus on considering the humanistic signification of interactive and artistic computation as related to different media such as video, photographs, and games. It is a great pity that this nascent community did not continue after 2004. Apart from COSIGN, individual papers have appeared on this topic in *Semiotica*, such as Newman (2009) and Connolly and Phillips (2002a).

The application of semiotics to HCI has the characteristic of taking part in the computer science domain. Many researchers in this area are active in working on HCI, multimedia, or other related areas within computer science. In this sense, the application of semiotics in this category has high potential to influence computer science in achieving a better, more humanistic design of computer interfaces.

44.2.2 *Semiotics Applied to Software Engineering*

Semiotic consideration of software engineering interprets the meaning of software applications and their development schemes from a humanistic viewpoint. The domain was formed by the community of *organizational semiotics*, inaugurated by Stamper (1973) with his book. After around 8 years of workshop openings, the community has been formulated into a more formal conference format.

As Andersen and Mathiassen (2002) write of Stamper, “with a background in the steel industry, he got irritated over the many unusable information systems of that time, and turned his interests to information technology to see if he could do better.” With such motivation, various information systems have been analyzed to verify their relevance and seek improvement. Semiotics has served as the framework here.

The target of this domain spreads over various kinds of information systems. It also ranges over different abstraction levels, from a component of an information system, such as a button in an application, to a large combination of multiple systems, such as an electronic election system (Liu et al. 2002). This variety can be briefly understood from themes expressed in the subtitles of recent organizational semiotics conferences: “web” (2013), “computational humanities” (2011), “pervasive informatics and the digital economy” (2010), “complexity in systems” (2007), and “interfacing society” (2006). Papers have been archived since the first working conference in 2001. Liu, one of the main members of the community and a colleague of Stamper, documented the core theory in Liu (2000), and a summary appeared in Andersen and Mathiassen (2002).

The majority of the arguments in organizational semiotics discuss a target information system from user-behavioral viewpoints. The particular semiotic theory frequently appearing in organizational semiotics is called the semiotic ladder, as defined by Stamper (1973), which is an extension of Morris’ three layers of communication (Morris 1938, pp. 6–7). The argument typically starts by applying this ladder to the target and then further diverging into application of different concepts provided within the semiotics theory. The ladder consists of the following six layers (Liu 2000):

- A. *Physical world*: signal, trace, physical distinction, hardware, component, density, speed, economics
- B. *Empirics*: pattern, variety, noise, entropy, channel capacity, redundancy, efficiency, code
- C. *Syntactics*: formal structure, language, logic, data, record, deduction, software, file
- D. *Semantics*: meaning, proposition, validity, truth, signification, denotation
- E. *Pragmatics*: intention, communication, conversation, negotiation
- F. *Social world*: belief, expectation, function, commitment, contract, law, culture

The first three layers concern “the information technology platform,” corresponding to the expression layer in Hjelmslev’s sign model, whereas the latter three layers concern “human information functions,” corresponding to the content layer (Ander-

sen and Mathiassen 2002). With the focus on the content layer, the question lies in the relevance of the coordination of the expression layer for handling content.

Given a target information system, the analysis proceeds by considering what constitutes each layer. As a brief example, Connolly and Phillips (2002b) analyze the use of an “OK” button to place an order for a commercial transaction within this framework:

- A. *Physical world*: Click and release of the mouse button, and brief change in the values of the relevant pixels
- B. *Empirics*: Pattern of mouse button movement in the vertical dimension, and brief inversion (or other change) in the appearance of the group of pixels representing the “OK” button
- C. *Syntactics*: Selection, from among the elements arranged on the screen, of the particular button concerned, rather than any other, such as the “Back” button
- D. *Semantics*: Decision by the user to place the order
- E. *Pragmatics*: Instigation of the commercial transaction
- F. *Social world*: Incurrence of an obligation by the purchaser to pay the vendor for the relevant commodity or service

The analysis further develops in relation to other components to consider whether the design is relevant to fulfill the user’s purchasing intent.

The field of computer science includes the area of software engineering. The objective of this area largely overlaps with that of organizational semiotics, seeking methods to build sound information systems. Since software engineering is part of the computer science domain, however, the analysis methods used here are more computational, such as model checking to automatically verify application behavior. Software engineering also examines typical software development schemes in order to achieve better software development. It could be said that this domain emphasizes the expression layer in terms of an information system.

Despite such coordination of organizational semiotics as the content layer and software engineering as the expression layer, there does not seem to be much integration of these two approaches. As these approaches share a common objective but with different viewpoints, a synthesis of the two approaches in the future could be fruitful.

44.2.3 *Semiotics Applied to Programming Languages*

Unlike the previous two applications, semiotic studies on programming languages have been limited so far. This is despite the fact that the earliest mention of the importance of applying semiotics to computing by Zemanek in *Communications of the ACM* who specifically emphasized this point (Zemanek 1966). This is because programming languages are for programmers and thus require certain expertise in the engineering domain. This situation differs from the previous two cases in which the users of the majority of target information systems are supposed to be nonexperts.

Programming languages, however, as Zemanek emphasized, concern fundamental aspects of the design of computing. Since any application software is implemented through programs written in programming languages, a deep analysis of computing is not possible without considering programs. Since programming languages are yet another sign system used by humans, their design is another target of semiotics.

The first published study of semiotics with respect to programming was conducted by Andersen et al. (2007, Chap. 1). They applied Peirce's theory to programming language systems (such as compilers and interpreters). Their interest, however, did not lie specifically in the programming language itself, as shown by Andersen taking part in the organizational semiotics community, thus indicating interest in systems, not languages. Connolly and Cooke also considered the pragmatics of programming languages in actual use (Connolly and Cooke 2004), arguing how programs have a pragmatic aspect. The target of this chapter, however, remains peripheral to programming languages and does not directly concern them as a core issue. To sum up, since the first mention by Zemanek there has been no concrete discussion of applying semiotics to programming languages, even though they are essential to computing design and are successful examples of artificial languages.

To fill this void, in the following section I present a semiotic conjecture on programming languages as a possible avenue for future discussion. This is done by providing a summary of relevant parts of a book on the semiotics of programming (Tanaka-Ishii 2010b). The survey so far has clarified that semiotics does serve for reconsidering various current computing designs from a more humanistic viewpoint, as noted in § 44.1.2. In contrast, what semiotics can gain through its application to computing—i.e., the formalization of semiotic theory itself—as discussed in § 44.1.1 is not yet clear. The next section provides an example of this as well.

44.3 Semiotics of Programming

A programming (or computer) language is an artificial language designed to control computers and machines. A text written in a programming language is called a program, and machines are thus controlled using programs. Since any computing is implemented via computer programs, semiotic analysis should provide a fundamental understanding of computer sign systems through comparison with those of humans.

In particular, it can help clarify the question of what computers can and cannot do. A key concept throughout is reflexivity—the capability of a system or function to reinterpret what it has produced by itself. Sign systems are reflexive by nature, and humans have attempted to make the best of this characteristic but have not yet fully done so in computer systems. Therefore, we can stipulate that the limitations of current computers can be ascribed to insufficient reflexivity.

Generally, the relation between signs and reflexivity has been a recurring theme appearing in many investigations. At least two broad types of reflexivity are apparent. First is the reflexivity existing in natural languages and in human knowledge based upon natural language. In semiotics as well, not specifically in computing but

more generally, reflexivity has been one of the most commonly recurring themes for discussion. The second type is the reflexivity existing in a specific, formal language, such as in mathematics or logic. As seen from the corresponding domains, the former type of reflexivity was developed mainly in the humanities, whereas the latter type belongs more to science and engineering. In these respective major scholarly domains, there have been similar considerations. The conjecture of semiotics of programming addresses a theme that attempts to bridge the two cases of natural and formal language to situate reflexivity as the general property of signs and sign systems.

The following sections are structured along three axes, following the convention used in Tanaka-Ishii (2010b): models of signs, kinds of signs, and systems of signs.

44.3.1 Models of Signs

Since ancient times, numerous philosophers have developed original sign models, and one way to organize these models is by the number of elements. The two main types are dyadic and triadic models as described in Nöth (1990, pp. 72–102). This naturally raises the question of how they are related. Understanding their correspondence promotes better understanding of each model, the universal functions of each of the relata, and most of all, what a sign is.

Nöth (1990, p. 93) states, however, that the correspondence “before and after Frege is a Babylonian confusion.” Above all, proper consideration of the relation between the two models has been infrequent, and even in the literature concerning this problem the conclusions have been controversial.

Hence, we consider the correspondence between the two representative models: the dyadic model from Saussure’s theory, consisting of relata called the *signifier* and *signified*, and the triadic model from Peirce’s theory, consisting of relata called the *representamen*, *object*, and *interpretant*. The choice is based on the fact that these two men are considered the founders of semiotics.

Nobody argues against the correspondence between Saussure’s signifier and Peirce’s representamen. For the remaining relata, many semioticians currently consider the signified to correspond to the interpretant, as in Nöth (1990, p. 94, Fig. M 3; Eco 1979, 1988, 1979, p. 60).

A direct examination of Saussure and Peirce’s definitions, however, suggests a different hypothesis. Peirce has separated the object into immediate and dynamical objects, where the immediate object is conceptual and included in the sign model but the dynamical object is material and situated outside the model. Then, there is the possibility that Saussure’s signified corresponds to Peirce’s immediate object. In this case, the location of Peirce’s interpretant must be clarified in the dyadic framework. Since an interpretant generates semiosis, its correspondence could be searched for within Saussure’s model. It could then be considered that interpretant corresponds to another sign, located in Saussure’s language system, that uses the original sign. The difference between the two models lies only in where to situate

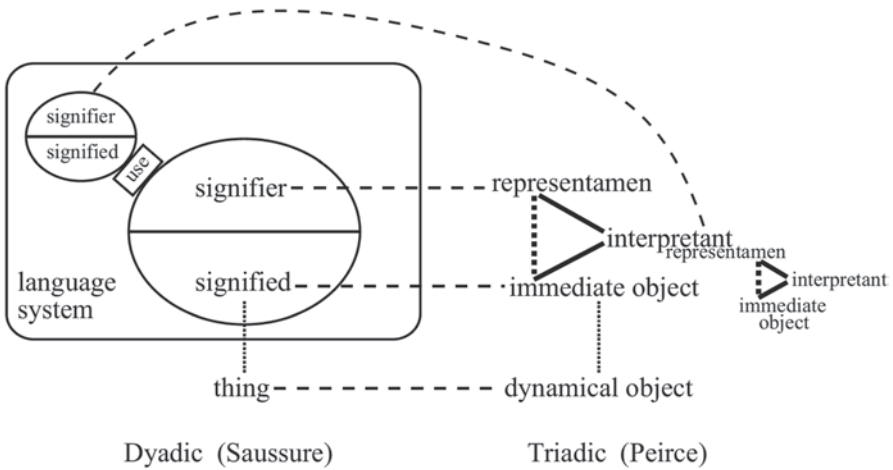


Fig. 44.4 Alternative hypothesis relating dyadic and triadic sign models

the use of signs: inside or outside the sign model. Figure 44.4 illustrates this alternative correspondence.

This new hypothesis is in fact supported through an analysis of programming paradigms. The dyadic sign model is deemed to correspond to the programming paradigm called *functional programming* (Bird 1998; Hudak 1989). In this paradigm, programs are described through functional expressions. Every sign is dyadic, having a function name, deemed the *signifier*; and content, the *signified*. The particularity of this paradigm lies in that the use of a sign is not included in definition of each sign. Functions that apply to the sign *Z* are defined *outside* the definition of *Z*. Signs are used by other signs appearing in the program, located elsewhere. Therefore, in the functional paradigm, a sign acquires additional meanings by how it is used, but this is described external to its representation.

The triadic sign model is deemed to correspond to the programming paradigm called *object-oriented programming* (Arnold et al. 2000). In this paradigm, programs are written and structured using objects, each of which models a concept consisting of functions and data. This programming paradigm enhances the packaging of data and functionality together into units, which is the basis of modularity and structure. Here, a calculation proceeds by calling a function that is *incorporated inside* a definition. The signs characterizing the object-oriented paradigm consist of a name, data, and functionalities, and they lend themselves respectively to comparison with the relata of the triadic sign model. Calculation is evoked by the functions that are paired with the data, which is analogous to *interpretation* as explained for the role of the interpretant by Peirce (1931, 8.184). Thus, the functions paired with the data are deemed interpretants. This fits with semiosis generation in Peirce's model, which requires only local information incorporated inside the sign model, not the whole language system. The fact that a sign has information about its functionality differs from the dyadic case.

The correspondence between the functional and object-oriented paradigms and their respective correspondences with dyadic and triadic sign models imply a correspondence between the dyadic and triadic models, which supports the alternative hypothesis suggested previously (Tanaka-Ishii 2010b, Chap. 3, 2006). Hence, if Saussure's dyadic modeling and Peirce's triadic modeling are each realized as computer signs, they appear as different programming paradigms. It should be noted as well that these two paradigms emerged without any relation to semiotics and therefore might support the notion of semiotic theory encompassing dyadic and triadic theories in parallel.

From the viewpoint of this new correspondence, it could be said that the dimension of the signified and the immediate object concerns the concept or *content* of a sign, whereas the dimension of the interpretant concerns the interpretation or *use* of a sign. In other words, the content concerns the *what*, or the *semantics*, of a sign, whereas the use concerns the *how*, or the *pragmatics*, of a sign. Consequently, a sign is a medium for stipulating semantics and pragmatics.

The contemplation of this compatibility can be continued further by considering a type of expression appearing in programs (Tanaka-Ishii 2010b, Chap. 4, Tanaka-Ishii and Ishii 2008): self-reference. A sign is self-referential if it is defined by direct or indirect use of itself. This typically takes the form $x = f x$ in a program, so that showing how x is used indicates what x is. The self-reference is realized through *speculative* introduction of a sign: a sign is introduced to stand for itself as a complex whole, which will eventually be consolidated.

In a self-referential sign, the content is stipulated by the use of the sign. Then, the use and content become tightly coupled, thus resolving the separation between content and use. Further, the distinction between the dyadic and triadic models is resolved too, and they become equivalent.

In a computer language, a large number of signs are defined nonself-referentially; thus, the dyadic and triadic frameworks are compatible yet distinct and form two different paradigms. The distinction appears in terms of where to situate the use of a sign: inside or outside, as described previously. This distinction dissolves with self-referential signs. Most natural language signs, indeed, are introduced speculatively through their use: the contour of a sign is left inexplicit, lies in the language system, and is acquired through use, which reflexively stipulates what a sign is. No wonder, then, that the two models have existed throughout human history: they are equivalent.

Considering a sign as the medium representing semantics and pragmatics, as noted here, this *mélange* of content and use suggests that semantics and pragmatics unify in self-referential signs. This recalls Harder's statement that "semantics is transparently a subdiscipline of pragmatics—frozen pragmatics" (Harder 1996, p. 127). The meaning of a sign thus can be understood as the structural whole represented by a sign. This opportunity for use to freeze into content is present in self-reference, a notion that could be highlighted once again through contemplation of how particular a computer sign is in comparison to human signs.

44.3.2 *Kinds of Signs*

In computer programs, a value—an actual number represented by bits in memory—is represented by a sign in a stratified manner: a value, an address, and/or a type. For example, the value 32 is often introduced through a statement as follows:

```
int x := 32
```

This introduces the variable *x* to stand for an integer of value 32. It is interesting to see how this statement corresponds to three kinds of signs, namely, Peirce's icon, index, and symbol. Thirty-two is the most primitive entity, directly representing a bit pattern in memory, and therefore, such a sign could be understood as an icon (Peirce 1931, 3.362, 4.531). An index naturally corresponds to a reference (Peirce 1931, 2.283) consisting of *x* referring to the value located at the address represented by *x*. This correspondence with an index follows because data are physically stored in computer memory and form an organic pair with the value, and the address has nothing to do with the value (Peirce 1931, 2.299). As for the symbol, a type seems to be a sign that embeds a general idea about a value (Peirce 1931, 2.249). Therefore, *int* seems to correspond to the symbol, *x* to the index, and the value 32 to the icon.

Such hierarchical representation of data and functions has long been studied and established in the computer science domain without relation to Peirce's sign categories. In a sense, such interpretation could demonstrate the fundamental quality of Peirce's sign categories. Conversely, the interpretation shows how computer programs are yet another human sign system.

Such application of sign categories to computer programs could aid further in linking Peirce's sign categories with Hjelm's categories developed within the dyadic framework. This linkage could shed light on the nature of the ambiguity problem arising in programs, as detailed in Tanaka-Ishii (2010b, Chap. 6; Tanaka-Ishii and Ishii 2006).

The conjecture could further be continued in another direction to verify the nature of Peirce's trichotomy of firstness, secondness, and thirdness (Tanaka-Ishii 2010b, Chap. 7; Tanaka-Ishii and Ishii 2006): a form as is, a form that applies to a form, and a form that relates to other forms. The trichotomy has been mentioned by a number of philosophers in different ways, of which the most representative is that of Peirce's threading through his thoughts. Moreover, he stated that any form can be classified into one of the three kinds by considering how many forms it concerns. It has been controversial, however, to understand the nature of the third kind, in terms of how it is different from the other two kinds and whether three entities are sufficient as the number of kinds to cover all forms.

Peirce's statement of this trichotomy can be verified in terms of whether it holds in computation by applying program transformation techniques. It can be mathematically shown that there are indeed three kinds of content. The examination of each kind then shows that the nature of the last kind of form lies in reflexivity. Such reflexivity is realized through description by the use of signs, which provides a means to stipulate thirdness.

44.3.3 Systems of Signs

In the section on sign models, § 44.3.1, the nature of a sign was presented as a representation of the semantics and pragmatics of an object, articulated as a reflexive entity through speculative introduction into the sign system. When multiple signs of such nature work together, two kinds of systems arise: one *structural*—typically natural sign systems—and the other *constructive*—typically computer sign systems (Tanaka-Ishii 2010b, Chap. 9, 2008). The difference between these systems derives from their different interpretive strategies for reflexive expressions. Figure 44.5 intuitively illustrates the difference between their structures.

Natural sign systems handle self-reference, including any problematic self-referential expressions, by leaving ambiguity as is. This interpretive mechanism generates a *structural* system—in a Saussurian sense, where the signification of signs exists in a holistic system and the whole sign system operates reflexively. A structural system has the advantage of being robust and naturally accommodating reflexivity as an extension of each sign. At the same time, the content of most signs remains speculative, having ambiguity to some extent and requiring clarification of what a sign stands for.

In contrast, in computer sign systems programs must be *constructively* generated. Self-reference directly concerns the halting problem—it is impossible to build a computer program capable of judging whether a given program halts. A computer thus cannot distinguish between a program that ends within 1 min and one that will not end even after countless years of computation. Without the ability to judge whether a given program halts, once a computer starts running, any calculation risks falling into an endless cycle. The self-referential expressions appearing in programs are limited to special cases that are guaranteed to halt, and at that point, the signs involved in the calculation must be clarified without ambiguity. In such systems, programs must be built using signs that are guaranteed to halt, on top of one another. The structure of such a system can be stated in terms of being *constructive*, following the philosophy underlying constructive logic (Bishop 1967; Bishop and Bridges 1985; Beeson 1985), and probably many constructive movements in art, as well.

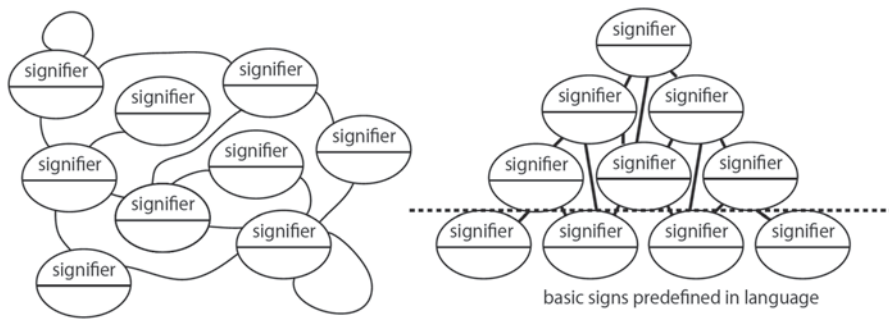


Fig. 44.5 Structural and constructive systems

Building a computational system is equivalent to describing its constructive whole in a program. Such a system is not robust, since one fault with a single sign would affect the whole, which depends on that sign.

A structural system is reflexive as a natural extension of consisting of multiple reflexive signs. Reflexivity in a constructive system, in contrast, is limited for the reason mentioned above, but it still exists. Indeed, the history of computer science can be formulated in the sense of considering how to exploit the reflexivity underlying a sign system in a constructive manner. The most fundamental computer software, compilers and interpreters of programming languages, is built in a reflexive manner by generating a larger system from a smaller one. Much research has sought to make the most of meta-functionalities, such as meta-programming (i.e., a meta-level program appearing within a program) and embedding of a system within another system. The programming paradigm of *reflection* (Smith 1982, 1984) has also been studied as a means of providing metalinguistic commands enabling access to the code attached to data objects and redefinition of the calculations therein. Overall, reflexivity is advantageous for increasing dynamism through modification of the system at run time, but it sacrifices the controllability of the system and increases its vulnerability. It is far from trivial to balance these advantages and disadvantages (Tanaka-Ishii 2010b; Chap. 11, 2010a).

The contrast between structural and constructive systems suggests a fundamental understanding of the difficulty of computing design by humans in terms of applying a structural system to use constructive systems. Hence, making computer sign systems structural holds the key to developing computer systems that behave more naturally; I return to this issue in § 44.4.1.

44.4 Towards Computational Semiotics

Thus far, semiotics in relation to computation has been briefly overviewed, and the semiotics of programming has been explained as an example. This has revealed several aspects of the domain's future potential.

Every possible aspect of the physical world is currently virtualized to support computational processing for analysis, simulation, synthesis, and prediction. The range of processing goes beyond linguistic description and covers all different kinds of meaningful signs, including sound, images, video, taste, scent, and physical environments. Here, computational semiotics—the term introduced by the COSIGN community, as mentioned in § 44.2.1—is reconsidered as a future branch of semiotics. Again, the goal is computational processing of different kinds of human representation in a human-oriented manner so as to achieve better information processing for humans aided by computers.

The objective here could perhaps be articulated as filling the gap between humanity and mechanical inhumanity, as in the subtitle of this chapter. Since people are biological beings and machines are not, there is no way to fill the physical gap between the two. Since both are driven by sign systems, however, improvement in the inhumanity of mechanical processing could be studied through this common

framework. At the same time, this would bring forth a deeper understanding of what kind of sign-processing beings we are, in comparison with machines. This would require the two domains to approach each other, with semiotics formulated so as to be applicable to a target as rigorous as computation, and computation reconsidered so as to process more human signs.

Such an endeavor can be explained further following the division of the computing domain into three categories, as given at the beginning of § 44.2. The following subsections are structured accordingly.

44.4.1 *Structural Computing Systems*

Regarding the study of computers and calculation themselves, a conjecture on transforming computers to possess more human-friendly features can be considered to form a part of computational semiotics. In § 44.3.3, I argued for one basic difference between human and computer sign systems, which are respectively structural and constructive. Hence, there is the possibility of considering structural computing.

Much previous consideration of modifying computing, as appearing in Maturana and Varela (1980) and Dreyfus (1972), can perhaps be characterized around the concept of *evolving systems*. Considering evolution in the sense of *gradual development* (Oxford online dictionary), then, many computational systems do evolve; calculation itself can be considered as a gradual development procedure to clarify what each sign in a system stands for.

The notion of *evolving*, however, cannot be characterized only as gradual development: it should at least concern continuous adaptation to the environment, as well. A constructive system has a limited structure under this view. In a constructive system, sign systems have hierarchies of signs. A sign depends on multiple other signs, which must be clarified in terms of what they stand for, in order to know what the first sign stands for. The sign in turn triggers other signs depending on it to know what they stand for. There could be a circular dependency structure, but in a constructive system, such circularity is limited to the extent that it can be transformed into a simple dependency structure. The evolution of such a system terminates once all signs involved in the calculation become clear as to what they stand for. In other words, a constructive system stops developing once it converges to a fixed point.¹ In a structural sign system, such a clear dependency hierarchy does not exist. The signs all work together, influencing each other in a complex circular dependency, and their content can remain unclear to some extent at any point (even at the end). This drives the system to continuously evolve in response to the environment. In other words, for a sign system to evolve, it must be a structural system.

Deconstruction of a constructive system into a structural system, therefore, could be a key for working toward an evolving computational system. This entails deconstructing the dependency hierarchy among the signs into that of a complex

¹ Theoretical computer science in fact formulates calculation as obtaining a fixed point in a solution space (Gunter 1962).

structure. Such a system would generate infinite semiosis, as present in a so-called *Peirce Machine* (Ketner 1988). This raises the difficulty, however, of controlling the reflexivity resulting from circularity. The use of such a scheme also requires consideration.

Such a structural system in fact might emerge naturally through attempts to exploit the reflexivity underlying constructive systems. Indeed, research on systems adopting *reflection*, as mentioned in § 44.3.3, is working toward connection in a structural manner, although the degree of reflexivity is still limited. Endeavors toward better control of reflexivity continue, and semiotics has the potential to provide a humanistic direction for this end.

44.4.2 Semiotic Engineering Extended

Regarding the study of computers for human control and use, the notion of semiotic engineering should be extended beyond HCI to form an important approach for any kind of information system design. The notion of meta-communication applies to designers working in other subdomains of the second category discussed in § 44.2, including software engineering and programming languages. The shared benefit obtained from this approach is to make use of the theoretical framework of semiotics for better design of computer systems for human use.

To this end, it is important to reformulate semiotic theory itself so that it becomes applicable to computing, as mentioned in the introduction, § 44.1.1. Without this reformulation, it is doubtful that the results will become influential in the computing domain, given the fact that it is a formal target. For example, a user interface system can be considered in the frameworks of both semiotic engineering and organizational semiotics, since an interface is yet another information system. These two domains are based on the different frameworks of Jacobson and Stamper's ladder (as an extension of Morris' framework), respectively. How, then, can these approaches be integrated? It would be even more fruitful if consideration of such integration could generate a systematic scheme for designing human-oriented computational systems.

Most importantly, such academic activity should involve both the subdomains of computer science and an individual, specific research community. At the same time, integrated workshops along this line would provide the benefit of accelerating the increasing influence of semiotics on computing.

44.4.3 Semiotics as an Annotation Theory

Lastly, regarding the study of human-created content processed on computers, there exists another field of computational semiotics that can be gleaned from currently active studies but remains outside the scope of the semiotics community.

Currently, every kind of human-created content, such as text, audio, images, and video, is processed on computers in a data-driven manner. The target kind of data is archived and called a *corpus*, which is used to build a mathematical model for analysis and synthesis of target data. To facilitate such computing, the corpus is often annotated by building a kind of metalanguage. For example, a collection of images can be annotated by describing the images' content. The construction of such annotated corpora has been an important theme in every computer science domain related to the target kind of data. This is because once such a corpus is built through huge manual effort, the domain proceeds rapidly through application of mathematical models and machine-learning techniques for analysis, prediction, and synthesis. Vast amounts of data are archived and administered in the form of a data bank.

Such archival started in the 1980s, working from text and audio toward more complex data. Currently, every possible kind of data from reality are archived and annotated. For example, to control robots and improve HCI design, human motion data have been archived in great quantity (Keogh et al. 2004). On a related note, human motion traces within an environment—whether an intelligent room (Coen 1998) or outside—are archived using sensors and Wi-Fi access points (Tuduce and Gross 2005). Another example for a different type of data is demonstrated through processing of reflexive entities. Wilson (2012) attempts to categorize and annotate all kinds of metalinguistic phenomena appearing in English. Another example is the analysis of void, the blank spaces appearing in spatial or temporal representation, to achieve better design (Tanaka-Ishii 2013). The current state of computing has thus come as far as attempting to process such a variety of subtle, human-oriented data from reality.

Since the use of a corpus is open and unpredictable, the annotation is usually designed to be as general as possible. The design usually starts by wandering around in a fog, without any solid framework to support the annotation activity. So far, annotation has been made without any reference to semiotics, but it often reaches the point of reinventing some known framework in semiotics. For example, given an image, there is a question of what to annotate, and this directly concerns the question of icon, index, and symbol. Another example is delimiting a sequence of human behaviors. Given a set of time series obtained from body motion sensors, the question is how to delimit sequences so that a chunk forms an atomic movement, such as “standing” or “sitting.” This example concerns the question of what should be considered as a sign, or an articulation.

Semiotics theory thus has the potential to serve as a general framework for annotation design. This could be achieved through examination of the annotations applied to data consisting of human-created content. It would be interesting to consider annotation of a specific kind of data, but semiotics, with its most fundamental view at the level of the sign, should technically be able to consider annotations encompassing different kinds of data at the same time. This would form a technique of semiotic guidance for annotation design. To sum up, semiotics could serve as a foundational theory for annotation, and this would reveal the generality of signs underlying human content.

44.5 Concluding Remarks

This chapter was dedicated to introducing the application of semiotics to computing. It was first argued that semiotics could facilitate better information system design, and that computation could enable reformulation of semiotic theories. A brief survey then examined three subdivisions of computer science in relation to humans. It was seen that the semiotics of computing for human use has been rigorously studied, and the semiotics of programming languages was introduced. Lastly, this intersection of semiotics and computation was wrapped up under the umbrella of computational semiotics as a branch of semiotics. Specifically, computational semiotics entails the quest for computational processing of different kinds of human representations in a human-oriented manner, so as to achieve better information processing for humans aided by computers. Three possible future paths for this line of inquiry have been shown: structural computing, semiotic engineering, and semiotics as a general annotation framework.

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Kumiko Tanaka-Ishii is a professor at the Graduate School and Faculty of Information Science and Electrical Engineering, Kyushu University. The goal of her research is to gain understanding of the mathematical structure of language and the nature of meaningful signs, which she has pursued in the domains of computational linguistics and semiotics, natural language processing, and information retrieval. In computational semiotics, her major work is on the semiotics of computer programs, resulting in the publication of journal papers, later collected into a book published by Cambridge University Press (Tanaka-Ishii 2010b). She received her Ph.D. (1997, natural language processing), M.E. (1993, functional programming languages), and B.E. (1991, mathematical informatics) from the University of Tokyo. During the period 1995–1996, she was an invited researcher at the Computer Science Laboratory for Mechanics and Engineering Sciences (LIMSI-CNRS) in France. She worked for the Electrotechnical Laboratory for 3 years before becoming a faculty member of the University of Tokyo in 2000, then moving to Kyushu University in 2012.

Chapter 45

Standing on the Shoulders of Giants: A Semiotic Analysis of Assassin's Creed 2

Dario Compagno

45.1 Semiotics and Game Studies

Since semiotics came to existence in Europe as a discipline, it has had a single aim, however variously defined that of understanding *how meaning works*, by studying how different combinations of words, images, and other expressive means *make sense*. Instead of focusing on cognitive and other biological processes that could play a role for meaning making, semiotics starts from the final product: a written text, a multimedia object, or an expressive artifact of other kind. The fundamental question addressed by semiotics is the following: for what reasons does this text or artifact have the sense that it has, and not another one?

European semiotics was born from linguistics and literary criticism, and its first models derived from the analysis of written and oral texts, such as fairy tales and short novels. Is it possible to apply these analytical models to something that is not a text? For example, to a painting, a song, a movie, or a video game? Yes: expressive artifacts are comparable from a standpoint that sees them all as *récits*, narratives. This does not imply that a photograph makes sense in the same way a novel does. Most probably there are no expressive artifacts sharing fewer common traits: novels are temporal, “diegetic,” based on language; photographic pictures are spatial, “mimetic,” based on vision. And still, the main idea of European semiotics is that of finding in narratives, a common denominator for all forms of human expression (Barthes 1966). Common denominator permitting to compare radically different means of expression, and so to make traditional criticisms (of literature, art, music, games, etc.) and cultural analysis converge.

Are video games different from any other form of cultural expression, and therefore *special*? Sure: in the sense that they have a *proprium*, a specific difference, some distinctive features making them capable of realizing unique meaning strategies and sense effects. But this is true also for *every* other form of expression: each one has

D. Compagno (✉)
Université Sorbonne Nouvelle, Paris, France
e-mail: dario.compagno@gmail.com

its specific difference, that should be understood and respected; but then if everyone is special, no one is. It would not make sense to generalize to everyone but one: to all forms of expression, communication, art, but games. And in fact games are “exchanged in the market of culture,” adapting themes and strategies from other forms of expression (or *languages*, as semiotics calls them). Within game studies, researchers have isolated the specific *proprium* of video games: the rules. Games “work,” make sense, because they use regulated patterns of interaction within them, producing a particular kind of narratives. Some scholars call them interactive narratives, while others prefer not to use the term “narrative” at all for games; still, from the perspective of semiotics, there is no reason to isolate games as outcasts of culture.

Jesper Juul, game scholar, originally tried to defend the idea according to which in games there is a narrative layout that does not interact with the core rule-based meaning-making systems in games (Juul 1998). To prove his point, he produced a clone of the game *Space Invaders*, in which he substituted the approaching alien spaceships with instances of the Euro currency. What Juul did not recognize, was that the player of his game was actually shooting at the Euro currency, and this had an enormous impact on *the whole sense* of the game. This is especially true being Juul Danish, and being Denmark one of the European states not adopting the common currency. Juul’s game was actually a counter-proof to his own argument, showing that the narrative layout does matter greatly for how games make sense. Later, Juul (2005) changed his main argument, trying to prove that the narrative layout in games plays an important role for their meaning, but that it could still be thought as an autonomous layer, separated from the second (and dominant) one: the rules. However, we do not believe that one can simply separate rules and narration—as two different ingredients making the object video game.

If a rule has to make sense, it has to be presented to the player in a way he or she can understand it. The player has to grasp the rule as a “human rule,” part of a rule-based exchange. Rules are a very important component of many everyday activities, to the point that for Ludwig Wittgenstein (1953) every act of language or of expression could be thought as rule driven. In order to understand a rule, we humans need to associate some narrative affordances to it, that is, we need to build a representation of what *aims and means* this rule presupposes. A rule that is only mathematically represented would not be a rule at all, if not for a computer perhaps (but it would be easy to question if we could really talk of “rules” in that case). Starting from means and aims, we do spontaneously find narrative roles: that of the protagonist, those of the antagonists and helpers, that of the sought object (Greimas 1987). *A basic narrative is nothing but the representation of a rule-based process.*

It would be naive to think at narratives as a messy layer with no regularities, given that, for many scholars, the main role of narratives is exacting that of structuring experience. In video games, we players act within a set of regulated roles and expectations giving sense to what happens on the screen and to what we do. A paradoxical “nonnarrative” game would simply not make sense, and a “nonnarrative” description of rules and games would end up into nothing but a technical description of design or programming implementations. Technical descriptions not only are unrelated to the cultural potential of games (“what the game means” in a

larger sense, including what social consequences it could produce, what cultural references it recalls, and so on) but do not even grasp the pleasure of the game itself (“what the game means” to its player, why it is different from any other game). The main aim of semiotics applied to video games is then: *for what reasons does this game have the sense that it has, and not another one?*

45.2 Barthes’ Method

Among the methodologies developed within semiotics, that used by Roland Barthes in his book *S/Z* is perhaps the most comprehensive (Barthes 1970). Barthes played from the very beginning a major role in building a consciousness for semiotics as an autonomous discipline. For *S/Z*, he selected a set of concepts capable of providing a comprehensive understanding of the short novel *Sarrasine* by Honoré de Balzac. His specific aim was to describe how a text becomes *readable*, that is, not requiring any particular conscious effort by the reader to be understood. A readable text *flows*, everything in it looks understandable and easy. The opposite of such a text is called *writable* by Barthes. Writable texts give the impression of not communicating one well-defined message. In order to “work,” writable texts require a more active participation by the reader, needed to complete missing passages and blank spaces. Barthes differentiated five different analytical perspectives (he called them *codes*), that could be used separately or together to unveil how reading works, and in particular to understand and describe what produces readability or its opposite, “writability.” These five analytical perspectives shall not be seen as autonomous components in texts (as if they were five well-separated blocks, building meaning) but as complementary ways to approach any object of study.

Let us now describe briefly the five codes or analytical perspectives used by Barthes in *S/Z*, before applying Barthes’ method to a game, *Assassin’s Creed 2* (Ubisoft 2009)—abbreviated as *AC2* from now on. None of these codes are more important than the others: each one describes a dimension that is crucial for meaning. Still, Barthes differentiated the first two codes (*enigmas* and *actions*) that are responsible for building readability, from the remaining three codes (*semes*, *symbols*, *references*).

1. *Enigmas*. The attention and interest of the player has to be stimulated. Games pose questions to players, and through the development of the game these questions will eventually be answered. In *AC2*, we find some clearly defined questions (*Who is the Prophet? Who Ordered the Death of Ezio’s Father?*), answered as the player proceeds. In other abstract games, it could be a matter of regulating the information given to the player¹; more important, in some games it could be asked to the player to give personal answers to enigmas, and not just to discover the correct ones.

¹ One of the most important features of the game *Tetris* is that the player does not know what pieces will fall after the next one.

2. *Actions*. The easiest thing to describe in a game is the actions performed by the avatar and the other characters (in more abstract games, there is still something going on, on the screen, that can be described in terms of actions²). Apart from what happens on-screen, we need also to pay attention to what happens off-screen: the player actions, fundamental component of interactivity. We will look at how small actions compose larger narrative sequences (it is the death of Ezio's father that makes his quest begin) and build meaningful structures (the death of Vieri is an anticipation of Borgia's defeat).

By looking at actions and enigmas, we can describe how the game moves forward ("pulled" by the will to know how it will end; "pushed" by the actions building on the top of each other). Enigmas and actions define a linear evolution. Every kid knows that at the end of a story all questions will be answered and the evil characters will be defeated by the hero³. Umberto Eco (1979) calls *open stories* those that are not complete in this sense; still this is not the case of *AC2*, where most enigmas are solved and most actions are completed (the open ones ask to be completed in the following episodes of the game series).

3. *Semes*. By analyzing meaning, we end up with differential units called semes ("little meanings" as Barthes 1970 referred to them)⁴. Semes are not necessarily physical properties, they are just the result of differential analysis; semes are also never primitive, and each seme could be analyzed further in other contexts⁵. In games and stories, semes distribute themes through characters, places, environments, objects; looking for semes, we can find tensions between characters or changes in mood that suggest a narrative turn (for example, Ezio Auditore becomes an outcast from a nobleman he was, and his transformation happens gradually as he encounters thieves, prostitutes, weapons,...).
4. *References*. *AC2* evokes Italian history, architecture, art and everyday life, the Christian tradition, the Templars, the alchemical tradition, and many other sets of knowledge. *AC2* also builds a unique science fiction world of reference elaborating on some biological ideas (lived experiences are passed from father to son, thanks to their perfect inscription at a micromolecular level, in the DNA). When we talk about *realism* for a fictional world, it is its references that we are discussing, judging if they are well-chosen and well-related with one another. This is also why a certain representation of Italian Renaissance would be considered realistic for a given reader, living in a given age, and not for another one.
5. *Symbols*. Some elements in games are like "black holes," attracting interpretation and bringing it beyond the game itself. When we adopt what Eco (1984) calls the *symbolic mode* of interpretation, we look for affordances leading to

² Albert Michotte (1946) experiments proved that we humans attribute agency even to the movement of abstract geometric figures.

³ Rhetoric figures may give the impression of altering this linear evolution (for example by preponing or postponing an event in a flashback or premonition), but readers should not be fooled by figures, and most stories and games are linear and complete in the end.

⁴ For example, to differentiate a ketch from a sloop, we should point out that the first is *two-masted* while the second is not. The difference between a ketch and a yawl is instead that in the first the mizzenmast is *forward of the rudder post* while in the second it is not.

⁵ About semic analysis see Eco 1979, 1984; Greimas 1966; Rastier 1985.

other texts and other stories. As the wolf in *Red Riding Hood* may stand for a multiplicity of different things (sexuality, violence, emancipation), so events and characters in *AC2* allow for complex readings. Here, we will propose two symbolic interpretations of *AC2*.

By looking at semes, references, and symbols, we aim to detach ourselves from the game evolution. We prefer to connect elements that were not necessarily adjacent in the first place. We look for details and thresholds, changes in mood and allusions, oppositions and transformations constructing an architecture of references. If this architecture is solid, then some of its elements will become symbols, cues to start an indefinite interpretation. Still, symbolic interpretation is interesting only if it is grounded on the semes and references we found in the game, otherwise, it is just a play of amusement totally unrelated with the game itself. Having introduced the five codes, let us see what we can find in *AC2*.

45.3 Assassin's Creed 2

Barthes suggested to analyze the text (or game, in this case) step-by-step, using codes as aids. Step-by-step analysis permits to read the details without being conditioned by an *a priori* general idea that we may have about the game. The analyst looks for an estrangement (*ostranenie*) focusing just on the details, and only at the end he or she depicts a global picture. We have performed elsewhere a complete step-by-step analysis of *Assassin's Creed 2* (Compagno 2012). Here, we will focus on ten points worth of interest on their own. For clarity, we will make reference to the five codes by Barthes to organize the presentation of these ten points.

45.3.1 Semes

45.3.1.1 The Title: *Assassin's Creed*

How can an *assassin* have a *creed*, an organized set of beliefs? Does not the act itself of slaughtering other human beings go beyond any social norm? Actually, assassins differ from killers exactly because of the fact that they have some "noble reasons" to do what they do, being these reasons grounded into religion, politics, or other causes. Every assassin has a creed as motive. Therefore, an assassin is literally *guided* by his or her creed, and the title of our game shows it clearly: the subject is the creed, while the assassin is just a possessive phrase, just a means to the creed's ends. It is the creed what really "acts," while the assassin follows reasons he or she may not be able to grasp entirely. The term "assassin" has its origin in a tale by Marco Polo: someone called *The Old Man of the Mountain* used to kidnap warriors and use their strength for his ends. He reproduced the Eden on Earth, locked the kidnapped warriors in it, and after having given them enough time to get an habit to

this Eden's pleasures (among which its *hashish*, from where the word "assassin" is said to come from), he abruptly took them away from it. To let them enter the Eden again, he demanded for some services, usually involving killing.

It is easy to see why the title is nothing but the entire game synthesized in two words: Ezio is preceded by the creed (by the sect of the Assassins), who move him around like a puppet. At the end of the game, Ezio will be left on his own, with many questions and very few answers. Minerva, final goal of his quest, will state that it is not to Ezio that she wants to talk, he is nothing but an intermediary, needed to deliver a message. Desmond, second main character of the game, does not have a much different destiny. Desmond uses a technological device called Animus to revive Ezio's memories. Imprisoned for some reasons he cannot understand during the first episode of the *AC* series, Desmond is freed at the beginning of this second episode, again for reasons that are not fully explained to him. In the end, it is faith (the creed) and not reason guiding both Ezio and Desmond.

45.3.1.2 The Presages of Ezio's Radical Transformation

The very first scenes in which Ezio is our avatar present him in a detailed and coherent way. He is happy, rich, the leader of a group of young men. His family is powerful and influential. When his mother Maria was giving birth to Ezio, his father told him that the nobility of his very family name (Auditore) should inspire him to fight. Several other elements in the game's first scenes talk about Ezio's character: Ponte Vecchio, location of our first encounter with him, the fictional Palazzo Auditore, the clothes he wore, the actions he performed, the people he met (the equally noble Vieri and the beautiful Cristina) all lend to Ezio's character traits that characterize him in a certain way.

This until his father's death. There were some signs of the turn. Generally speaking, such a happy beginning cannot but lead to a sad turn. More specifically, there are *three presages* in the prelude anticipating what life Ezio will live. The first can be found in the dialogue between Ezio and his brother Federico, at the very beginning of the game: "It is a good life we live, brother."—"The best. May it never change."—"And may it never change us." If these words proved true, Ezio would have had a happier life (and married Cristina, perhaps), but we would have had no story to play. Not much later, Ezio's father Giovanni scolded his son for his exuberant behavior. Giovanni concluded his speech by saying: "Your behavior is unacceptable! It... It... It reminds of myself when I was your age." And as in youth, so in maturity Ezio will have to walk in his father's steps, becoming an Assassin. *May we never grow old*, says Federico. *But no one remains young forever*, answers Giovanni. We begin to understand that something will go wrong. Third presage: Giovanni asks Ezio to deliver some letters. The receivers are people Ezio would not have dared to mix with until then: dirty, poor, talking foul language, addressing Ezio as he was one of them. What is the reason why the game is letting us interact with them? Is it particularly fun to deliver letters? No, this is just a taste of the life Ezio

will live, and the game is building a player capable of understanding and appreciating the story he will play.

After Giovanni's death, Ezio will have to learn from thieves, prostitutes, corrupted soldiers, and mercenaries the skills needed in his new life. The noble young guy living in Florence will become a nomad and outcast. Monteriggioni, Ezio's new home, will look nothing like *Palazzo Auditore*, and all happiness will seem to be lost. Again, the setting in which the character acts is like an external mirror showing their inner traits and states.

45.3.2 Actions

45.3.2.1 Vieri's Death

The death of Vieri, against whom Ezio was scuffling on Ponte Vecchio, marks a second important narrative turn. In Monteriggioni, after having fled from Florence, Ezio has to take the game's most important decision. He has to choose between either keep fleeing, maybe to Spain, bringing his young sister and his catatonic mother Maria with him. Or he can stand against Vieri and the Pazzi family, following his uncle Mario to battle. *Maria or Mario*, choice that has huge consequences on the game's symbolic structure (see below, § 3.5.2). And Ezio chooses: he abandons his mother in Monteriggioni and rides to San Gimignano, where he will kill Vieri. Vieri is the first of Ezio's two doubles or *doppelgangers*—the second one will be Rodrigo Borgia. Vieri and Ezio share many semes (they are both noble and young), but they are members of two symmetrical and opposite lines of blood: the Assassins and the Templars.

We can subsume all the actions preceding Vieri's death in a series labeled *Seeking Revenge*. It is the series identity what gives sense to the smaller actions composing it. His father and brothers executed, his mother violated, Ezio's first actions are to kill those who betrayed him (Uberto Alberti); then he flees, and hunts the instigators of his father's death. Every step makes sense because it is preceded by something and followed by something else. The same actions, if linked differently, would have had an entirely different meaning.

When Ezio wants to go further, by looking for the puppeteer who moved the Pazzi family, all changes again. The slaughtering of his father was only a step into another, greater series of actions, that of *Fulfilling a Prophecy*. This second series changes the meaning of all the actions composing it—including the ones we interpreted before as simple revenge. Now that we begin to understand why Ezio's father Giovanni was killed, we give a different role to everything. In a sense, is it *good* that Giovanni was killed, because this will lead to the battle between Ezio and Rodrigo Borgia. It is this main series of actions that permits, at the end of the game, to give a role and a meaning to everything, and therefore to obtain a "readable" interpretation of the story told.

Before Vieri's death, we are playing a *novel* (or a *Bildungsroman*), that is, everything revolved around the main character's life and family. After Vieri's death, we are not anymore in a novel about Ezio's life, but in another story: an *epic* in which the hero (or superhero) has to save the world. These two phases in which the game is divided give it much of its sense and dynamics. The player is lured by a smaller series of actions he can understand, and then he or she slowly discovers to be playing something much bigger.

45.3.2.2 Verticalness, Horizontalness and Social Control Personified

In *AC2*, there are several classes of anonymous characters: doctors, guards, prostitutes, mercenaries, merchants, heralds, monks, and many more people just walking on the streets. None of them is there without a role: they mediate between the game appearance and mechanics. Mercenaries are there *to be* hired, heralds *to be* robbed, guards *to be* evaded. The rules of the game manifest themselves in the professions of the people. And their presence builds up some *operable boundaries*: ways to follow, barriers to cross, areas to avoid, and aims to reach. Ezio does nothing but to "flow" on invisible rails traced by the people: some "attract," some "repel," others "channel" because they permit to pass through spaces that would otherwise block the way. The first skill the player has to learn is how to see these boundaries, by recognizing the professions of the people. As the sailor learns how to read the waves and the winds in order to move the ship in the direction he or she wants, so Ezio has to learn how to get close to his victims, using pedestrians, prostitutes, and monks to pass through the guards.

People are much more important than walls. Walls are easy to climb and there are no dead ends for Ezio. Most important: when Ezio climbs up a building, *the way of playing changes*. In *AC2*, there are two very different spaces: the first *horizontal space*, at the ground level, and the second *vertical space*, on the roofs and ledges. These two spaces have nothing in common, however easy it may look like to step from the one to the other.

Let us begin by describing the horizontal space. Using a term from Gilles Deleuze and Felix Guattari (1980), we could speak of a *striated space*, that has its well-defined rules and habits. Whenever Ezio walks at the ground level, he has to respect the laws of the city: he is a citizen, has to conform to the *norm* and show respect for it. The norm is incarnated by the *normal* people, knowing what is right and what is not. If Ezio does something unusual, the people are ready to point it out: first by simple comment, then by proper action (they move away, flee, shout or even call the guards). Given that there is no norm without sanction, the guards are receptive to this alarm sign. Normality is really *played* in *AC2*, we can feel its weight at every moment. The art of the Assassin is that of acting without being noticed, escaping social sanction. This asks for what we could call an *horizontal intelligence*. A skilled player is able to perceive the particular occurrence of the social norms (of the game rules) at any given moment, understanding what to do and how. Ezio is like a pencil

connecting dots in a given order. So Ezio's actions at the ground level are relatively constrained, by the quests he has to achieve and by the people delimiting his path.

Quite the opposite is true up on the roofs. Up there Ezio is a *nomad*, much more free to go wherever he pleases. He is already outside of the social norm, in an uninhabited, *smooth space*. The fact itself of climbing up the buildings characterizes the way we play *AC2*, we feel like we are doing something out of the ordinary. Moreover, players need to develop a *vertical intelligence* associated with this new space. Often, we are on the roofs because someone is chasing us: we have just to care about not getting caught, by running fast and finding a way across the buildings. This is already enough to radically change *AC2*'s way of playing: the action is faster, less reflexive, and more practical skills (hand-eye coordination) are required. The physics of *AC2* contributes to this second, vertical way of playing. Gravity is a kind law in *AC2*, permitting Ezio to do things that would be impossible in reality: long jumps, crazy falls, miracles of equilibrium. This is why while playing on the roofs, the player feels much less constrained than at the ground level. There are no precise lines one has to color within, and several alternative passages are open to Ezio at every given time. This produces a sense of freedom, amplified by the fact that eventual falls are almost never lethal. Mistakes are expected by the game and no single action can kill us. What is asked, on the contrary, is a certain creativity in finding quick solutions: where to jump, where to land, where to fight, where to hide.

This antinomy between a *smooth* and a *striated* ways of playing characterizes *AC2* and gives a rhythm to play, alternating moments in which we have to pay attention and understand where we are, to other ones in which we can try and forget entirely where we are (what is our precise position on the map), just living as if our getaway could get us anywhere. There is a particularly spectacular action in *AC2*, usually giving an end to getaways, in which this feeling of freedom is most intense: the so-called leaps of faith. Whenever Ezio jumps off the highest spots of the city, and lands dozens of meters below, entirely safe, in a hay wagon, we players feel great. In those few seconds between the jump and the landing, the player feels like he or she is flying, completely detached by the (social and physical) laws governing the world of *AC2*.

45.3.3 *Enigmas*

45.3.3.1 **The Prophecy and Ezio's Destiny**

AC2 is structured by two main enigmas. The first one regards only Italian Renaissance (is "immanent" to Italian Renaissance). Throughout the game, Ezio meets a number of characters helping him to find a powerful technological object called the Apple. Among them, his friend Leonardo da Vinci, his uncle Mario, the brothel owner Paola, and the thief Rosa. The game does not give us any definitive clue of their true identity until a very precise moment. In Venice, when Ezio finally has the Apple in his hands, after having taken it from Borgia's ones, we learn that almost

everyone Ezio met is an Assassin. Ezio was nothing but a piece in a greater game, his actions carefully followed by the assassins, who wanted to train him as one of them. This training takes time, so they decided to keep him in ignorance, and to help him in secret every now and then. The aim of the assassins is that of fulfilling an ancient prophecy, written down by Ezio's ancestor Altaïr. This prophecy says that one day, "in the floating city," a person will have the Apple in his hands; this person will be the only one able to open the vault, hidden location in which something will happen—but the prophecy does not say what. The first main enigma of the game, around which everything else revolves, is then *Who is the prophet?*

What the assassins did not know, was that Ezio himself was the prophet. So, when they found him fighting Rodrigo Borgia in Venice, they were surprised as he was. We should also remember that Ezio would not have been in Venice if Rodrigo Borgia and the Templars did not lure him there. Since the death of Ezio's father Giovanni, every step taken by the Templars did nothing but bring Ezio closer to where he *had to be*. Rodrigo Borgia is responsible for bringing the Apple to Venice: He erroneously thought to be the prophet himself, but his actions turned against him. The prophet's identity is then the crucial information in Italian Renaissance, the single most important piece of information "pulling" the characters' actions and building the architecture of enigmas.

Everything conspired to fulfill the prophecy. The assassins, the Templars, and chance made Ezio reach Venice at the exact time he had to. But if this is true, then *there is no chance nor freedom in the game's world*, everything occurred as it had to occur: there is a force controlling all events. Barthes (1966) wrote that narratives are the language of destiny, and it is true that events acquire in narratives a meaning that goes beyond that of their mere existence. In a game like *AC2*, we are given the possibility to *play* such a destiny. Let us now see how this controlling force is represented in *AC2*.

45.3.3.2 Metalepsis: Minerva's Plan

In *AC2*, there is a greater plan responsible for everything that happens both in Italian Renaissance and in Desmond's present. There is a "transcendent" will determining the course of events in Ezio's and Desmond's lives. The second main enigma structuring the game's meaning is: *What is the Content of the Prophecy?*

After Ezio obtains the Apple, he is able to locate the vault in Rome. He goes there, fights and defeats Rodrigo Borgia (Pope Alexander VI) one last time, entering the vault. And there he finds Minerva. Ancient goddess, she is actually an alien, most probably coming from Jupiter, member of a highly developed civilization. Minerva and the other aliens (the memory of which is recalled in myths) were the creators of the human species. They wanted to use humans as slaves, controlling them with some technological artifacts like the Apple. But the humans freed themselves and fought a war against these "gods." Most important, Minerva foresaw a catastrophe that will cause all forms of life to disappear from Earth. This catastrophic event will

happen around the year 2012. So, put aside the hasty feelings between humans and aliens, she decided to leave a message to someone in 2012. Thanks to the information she gives him, this person will at least be able to save something of the world.

In the blink of an eye, in the vault, we understand that *Minerva is speaking to Desmond*. Desmond never thought, even for the shortest moment, that someone in the Renaissance could be aware of his presence there. Disembodied vision, “transcendental glance,” Desmond was physically nothing at Ezio’s times. But Minerva was instead aware of his presence there; she knew not only that Ezio would be there that day but also that Desmond would be there with him. The way in which the player is lead to understand that Minerva is talking to Desmond, and not to Ezio, is a masterpiece of game design.

Minerva is speaking to Ezio. At a certain moment, she begins *to look at us, at the virtual camera*. Ezio is confused, and tells Minerva that he does not understand what is going on and what she wants from him. Minerva answers that her words are not addressed to him. But isn’t Ezio alone in the vault? He does not know anything about Desmond’s existence. We players (and Desmond too) are in doubt: Minerva is talking *to whom*? For a short while, we players may have the very unpleasant sensation that Minerva is talking *to us*. And this must have been the exact same sensation felt by Desmond: he was not there, how come she addresses him? Isn’t Desmond epoch unaccessible from Ezio’s one? This moment of *AC2* is a true masterpiece because it creates an indeterminacy between Ezio, Desmond, *and the player*. The game manages to produce a real sense effect on the player, that is presumably the very same one Desmond could have felt. Desmond is a *voyeur*; someone who observes without being observed, but Minerva crashes this expectation in the blink of an eye⁶. Desmond’s identity changes, he is now an agent, directly interacting with Minerva. Game designers obtained this sense effect with much care, using dialogues and above all Minerva’s sudden direct glance to the virtual camera.

“Enough! I do not wish to speak with you but through you. You are the prophet. You’ve played your part. You anchor him, but please be silent! That we may commune,” says Minerva to Ezio. After Minerva tells her story and delivers her message, she looks again at the virtual camera, and she adds: “It is done. The message is delivered. We are gone now from this world. All of us. We can do no more. The rest is up to you, Desmond.” The name “Desmond,” pronounced by Minerva, removes any residual doubt. At least from the perspectives of Desmond and the player: very explicit statement indeed, but also quite obscure for Ezio’s ears.

This is the reason why only Ezio could enter the vault: because Desmond is his descendant and so the message needed to be inscribed in Ezio’s DNA (and not in Borgia’s one) in order for Desmond to access it much later in the future. Minerva could not send this message directly to Desmond in 2012, so she found a way to “send a postcard.” Technically what happens here is a *metalepsis*, as Gerard Genette (1972) called it. The two planes in the game (Ezio’s Renaissance and Desmond’s present) should not have met; but they do because there is a third, higher perspective, from which they are not separated at all. This perspective is Minerva’s plan.

⁶ The similarities between Desmond and the real player are discussed further in § 3.5.1.

Table 45.1 Chronology of the events related to Minerva's plan

Remote past	1191	1499	2012
Minerva foresees the catastrophe	Altaïr finds the Apple and begins to write the Codex	Ezio enters the vault and meets Minerva	Desmond relives Ezio's memories and receives Minerva's message

In a remote past, Minerva predicted the catastrophe. She predicted also that Ezio would enter the vault and that Desmond would relive this memory. She actually did more than that: she acted in a way that *caused the events to turn* in this exact way. What she “foresaw” was actually produced by her own actions, as in every temporal paradox. She loaded some information in the Apple, and waited for Altaïr to find it and read it⁷. It is Altaïr who actually created the prophecy, by writing it down. In 1191, he found the Apple and began to extract information from it, producing the Codex. Ezio deciphered the Codex in 1499. And all this lead to Desmond receiving Minerva's message in 2012 (Table 45.1).

Are these four independent fictional worlds? No: they coexist as elements of a greater plane, Minerva's plan. Minerva's plan is the perspective from which everything makes sense; moreover, it is also the cause producing the happening of all events. In a sense, Minerva is really the “god” of the game's world, and this world's development is nothing but the realization of her will. Altaïr, Ezio, and Desmond are just puppets in Minerva's hands. The Templars and the Assassins also are all puppets. There is no good and evil, the Templars are by no means less necessary than the Assassins.

45.3.4 References

45.3.4.1 The Apple

The apple is the main object in the game. Deleuze (1972) would say that the Apple is the “*object = X*,” that connects all codes, so to let a comprehensive sense emerge from their independent evolution. The apple is an element in the action series, because it is the sought object, guiding the actions of the assassins and Templars who both want it; it is part of the series of enigmas, because it is the apple that will determine who is the prophet; it is a symbol, connecting Ezio to the vault and to Minerva. The apple “flees” and the subject hunts it, bringing narration forward; given that the apple flees in multiple directions, the subject itself multiplies. Only when the subject finds the apple, he will find himself, his real identity (see § 3.5.2).

More generally, in our culture the apple has a strong cultural identity. There is a rich thesaurus of references, semes, and conventional symbols related to it. In

⁷ We see Altaïr retrieving information from the Apple at the very end of the first episode of *Assassin's Creed*.

the Christian tradition, the apple is linked to the Eden, and more precisely to the original sin. The apple was the only thing denied to the first two humans, Adam and Eve; therefore the apple was *the only thing they could desire*. The apple is first and foremost a symbol of desire itself, it is the purest incarnation of the desired object (close to Jacques Lacan's *object a*). In order to reach the apple, Adam needed Eva's help—we could say that pure desire has to be mediated by sexual desire. The Christian tradition assigns many semes to the apple, most of them negatively connoted. The apple connotes Eve: transgression, sin, exile, illegality are all semes that Ezio has to acquire in order to become the prophet.

These conventional symbols and semes exist only because the game makes reference to the Christian tradition. The Apple is the fruit of Eden, and has traveled from Palestine (the Holy Land) to Rome (Temple of Christianity), in the hands of the prophet. Created by a god, it cannot but bring to God, or at least to a representation of it. Prohibited fruit, because it gives the possibility to distinguish good and evil, and therefore the responsibility to judge: and assassins do nothing but judging.

45.3.4.2 Science and Faith

Does this reference to the Christian tradition mean that *AC2* carries a religious message? If anything, the opposite is true. There is a great semantic opposition grounding the entire meaning of *AC2*, that between *science and faith*, and there is no doubt that science wins every single time. The Animus is the instrument of truth, or to be more precise of *scientific truth*. The Animus permits to *see* what happened in the past, and so to find out the truth by means of direct confirmation. There is an implicit set of values behind *AC2*. The Animus works because the *soul is organic* and is inscribed in every single cell's DNA. There is no struggle between spirit and matter simply because spirit is matter. Not even Karl Marx could have given a stronger image of materialism. This apparently "innocuous" presupposition of *AC2* is actually the strongest incarnation of a strong philosophical idea.

In *AC2*, the past does not need to be interpreted because you can just see it with your own eyes. To see is to know, and also the classical philosophical struggle between *seeing and knowing* finds a sharp "solution" in *AC2*. There is nothing to know that cannot be seen. But then we are at odds with any mystical and religious tradition. There is only one truth: this is what *AC2* is stating. And the astonishing fact is that if we play the game uncritically, we do not even notice this implied statement. In fact, materialism grounds much of our contemporary culture, it is a presupposition, mostly accepted and not discussed. "*AC2* is just another sci-fi game, it does not convey any message," one could say. But sci-fi novels and games do convey messages, and *AC2* is no exception.

In our world dominated by science, or by a mythology of science, someone may even ask what other truths there are, if not the scientific one. Well, truths are linked to the way we find them, and to the aims we have (our *will to know*, as Michel Foucault would call it). Therefore, there are several kinds of truths, according to

the means and ends of their existence. Scientific truths are truths *to be discovered*, political truths are truth *to be conquered*, truths of faith are truths *to be learned*.

Sight is nothing but one, very specific way of acquiring knowledge. It is a very recent idea that of science being able to understand everything, and so—why not?—to help the constitution of the perfect political community, or to give the foundations for ethics. Scientists, or maybe just science-fanatics, believe that progress could not but make us aware of this general “truth.” But, carefully looking, this idea does not lead to the best of all possible worlds. Do we really want a political state based on science? For example, a state based on Marxist materialism? Because, for years, Marxism was thought to be science as much as relativity theory. Instead, there is a great difference between the truths that can be proved scientifically, and those regarding human community. Political truths have to be fought for and imposed, because you cannot “prove” the goodness of a political idea as you would do for a chemical statement. The instrument of politics is the gun, as Mao Zedong said, not the microscope. The same goes for religious truths. For religion, it is a matter of learning: you believe what you were told to believe when you were young. If you were born in Italy, it is very unlikely that you will become a Buddhist later in life, as it is if you were born in Saudi Arabia.

In *AC2*, the only real truth is the scientific one. The Pope himself does not believe in anything but science. Ezio asks him what he does expect to find in the vault. The Pope’s answer is God. And he adds: “A more logical location than a kingdom on a cloud, don’t you think? Surrounded by singing angels and cherubim. Makes for a lovely image, but the truth is far more interesting!” The Pope continues: “You know nothing, boy. You take your image of the Creator from an ancient book; a book, mind you, written by men! I became Pope because it gave me access. It gave me power! Do you think I believe a single goddamn word of that ridiculous book!? It is all lies and superstition, just like every other religious tract written over the past ten thousand years!”

Let us just recall another kind of truth: the hermetic one. Hermetic truths are truths *to be kept hidden*. They are “truths” only as long as they remain secret; if you bring them to the light (if you make them interact with other kinds of truths) they cease to exist. Eco is probably the scholar who best understood and explained the hermetic discourse of truth (see Eco 1990 and the novel *Foucault’s Pendulum*). If scientific truths need sight to be discovered, religions need books and politicians guns, alchemists need just a lot of time to kill. The hermetic discourse may interact with the religious, political, and scientific ones: let us think at the Renaissance philosophers bridging Christianity and the Cabala, at the power of sects, or at the relationship between alchemy and early modern Physics. Still, the hermetic discourse is nothing but a game of signs, a play of amusement as Ch.S. Peirce would call it, working only until we want to. No need to say that the hermetic discourse plays absolutely no role in *AC2*, where magic is nothing but ancient forgotten science.

45.3.5 Symbols

Symbols permit us to give a deeper interpretation to the game. Above all, we can try and understand better *what links Desmond to Ezio*. In order to obtain an answer, we have to build two *metaphors*: we will try and look for *other stories and ideas* that can be related to *AC2*. Does this mean that these interpretations have to be recognized by the player in order to appreciate the game? Absolutely not. But then, do these interpretations add nothing to the game but an arbitrary new perspective? According to us, this is also false. After having seen the analogies, it is difficult to go back to the game and entirely erase them from our memory, as if they were completely preposterous. The reason is that these interpretations are *suggested* by the game: there are elements that invite an aware player to ask himself a few questions that go beyond the borders of the game, but that are not less interesting and, we believe, legitimate.

45.3.5.1 Assassin's Creed 2 As a Meta-Game: The Animus Is a Console

The first thing that comes to our mind if we try and understand what links Desmond to Ezio (*what does it mean* for Desmond to become Ezio) is that Ezio is actually Desmond's *avatar*. Desmond is playing a video game and the Animus is nothing but a very sophisticated *console*. How else could we describe their relationship? Desmond is not just watching a movie from Ezio's perspective. It may seem so, given that the Animus is supposed to retrieve memories that are inscribed in Desmond's DNA once and for all. But actually, Desmond has *some freedom*—just a little bit. We can see it clearly whenever Desmond, through his avatar Ezio, finds the “glyphs” in Renaissance Florence. These glyphs are part of the world reconstructed by the Animus, but they did not exist in Ezio's Florence. In fact, it was a character living and acting in 2012 (Desmond's time), the so-called Subject 16, who introduced these glyphs in the virtual reconstruction produced by the Animus. Therefore, what the Animus actually does is to build a virtual reconstruction *based on* the memories inscribed into Desmond's DNA. And in fact, the player can choose to complete tasks and quests in slightly different ways.

At the same time, Desmond is not at all free to do whatever he wants, playing with Ezio's memories. Quite on the contrary, there is a path to follow, a precise evolution of events has to be repeated without possible variations. The aim of the Animus is not that of letting Desmond have fun, but of exploring Ezio's real memories and find something within them. The goal is to revive Ezio's life until he finds the vault, so that its location may be known in 2012. Therefore, there is an interaction between freedom and fate, between the availability of some free choices and the need to follow a precise path. Does not this *ring a bell*? Any player should be familiar with this exact sensation. In fact, what we are talking about is nothing but *the experience of gaming itself*.

It would take too much time here to state clearly why only some games imply this exact experience, granting a small freedom within well-defined boundaries. Anyway, we can safely say that many games work like this: there is a story the player has to follow, requiring him or her to pass through certain checkpoints (Juul 2005); at the same time the game allows for several minor choices to shape the game progression. What is the Animus then if not a console, allowing Desmond to play Ezio? This reading is of course “outside of the text”: Desmond does not feel like he is playing at all. Still, can we really say that the experience of gaming is not represented in the game, and that it does not contribute to its meaning?

If we accept this perspective, we can now ask ourselves what *AC2* is saying about gaming. First and foremost, it is saying that too much play detaches us from the real world and risks to make us go insane. It is called *bleeding effect* in *AC2*: the memories of the player (Desmond) get mixed up with those of the avatar (Ezio). If Desmond plays for too long, without pauses between playing sessions, he will begin to feel like his life does not belong only to himself anymore. He can begin to see things that are not there, remember events he did not live, etc. It is a very pessimistic view on gaming (especially if suggested by a gaming company like Ubisoft!) but we should not forget how powerful the Animus is, far beyond the possibilities of today’s consoles. If we could live another life for a while, to the point of forgetting the fact that we are not our avatar, would not we risk to suffer similar consequences?

Second point *AC2* suggests about games: By playing, we can learn things and acquire skills that may become useful in our real life. Desmond is doing a sort of accelerated training, and at the end of less than 40 h of connection to the Animus, he becomes able to move and fight like Ezio did. This phenomenon resembles the computer-mediated training of Neo in the film *Matrix*, after he is awakened by Morpheus. Therefore, *AC2* presents playing as not something bad *per se*—it is just preferable not to play for too long and to take pauses every now and then.

The idea of learning from games brings us to the last and most important consequence of this first symbolic interpretation of *AC2*. How many things have *we players* learned from the game? For hours, we have seen extremely detailed reconstructions of Florence as we imagine it should have looked like in the Renaissance. Of course, we should not see *AC2* as an accurate historical reconstruction. It is more like those novels that mix together actual historical notions and fictional characters and events. The Auditore, if they existed, did not play any role in the Pazzi’s conspiracy. Lorenzo de’ Medici was attacked inside of Santa Maria del Fiore, at the very moment he was receiving communion, and not outside of the church; it was the poet Angelo Poliziano (and not Ezio) to save him.

However, it is not the accuracy of *AC2* what matters. It is much more important to notice that *the player is there, controlling Desmond as Desmond is controlling Ezio*. The game represents within itself the relationship with the real player. For this reason, we can talk of *AC2* as a *meta-game*, representing (within its fictional world) gaming itself. *AC2* “theorizes” about what it means to play a video game, giving us some hints to think at the very act we are performing. Other arts and languages already produced such meta-representations (we could think at Federico Fellini’s *8½* for cinema, or at Marcel Proust’s *Recherche* for literature), but this is one of the first blockbuster games to do so.

45.3.5.2 *Assassin's Creed 2* As a Psychoanalytic Session: The Animus Is a Couch

There is a second metaphor through which we can read *AC2* “with new eyes.” Actually, this second metaphor is much more interesting than the first, given that it permits to assign a new role to almost *every* major element in the game. Then we can come back to the game and use what we have seen with this metaphor to get a better grasp of the game itself. The point of departure is again the relationship between Desmond and Ezio. We can try and see it as analogous to the relationship between the Ego and the Id in Sigmund Freud’s theory of subjectivity (Freud 1923). If we are ready to take this step, then the rest comes along by itself: *AC2 is a psychoanalytic session, a journey into the unconscious.*

How does a psychoanalytic session start? Someone looks for an analyst because he or she needs help to find a solution to a certain unpleasant situation. The analyst makes his or her patient sit on a couch. Then the analyst will aid the patient to enter the unconscious, a representation of his or her past. There are several figures “living” in the unconscious. First, the Id, representing the subject’s pure will. Then the superego, paternal figure of reference, guiding the person in life but also capable of causing feelings of guilt. What does the analyst look for? Usually a traumatic event that caused an unbalance in the patient. Often this event occurred during early childhood, and it may be linked to the triangular relationship father-mother-child, and to the peculiar process Freud called Oedipus complex. Again, what is the subject fighting? Mainly repression: a force keeping some memories outside of consciousness. Finally, what would be the best outcome of a session? The happening of an epiphany, by which a certain repressed memory comes to consciousness, and causes the trauma (with its unpleasant consequences) to be overcome.

How does *AC2* start? Desmond meets Lucy, and needs her help to escape from Abstergo, where he is kept prisoner. Lucy makes him sit on the Animus. Then Desmond enters a reconstruction of Italian Renaissance, that is built starting from his own past memories. In Italian Renaissance, Desmond meets his ancestor Ezio. Later, he meets Giovanni Auditore, Ezio’s father and figure of reference, the death of which will cause Ezio to suffer a great remorse. What is Desmond looking for in Italian Renaissance? An event that occurred in Ezio’s life, the memory of which has gone lost. Against whom are Desmond and Ezio fighting? The Templars, who want to keep some information (the location of the vault) for themselves. What happens at the end of the game? Desmond relives Ezio’s meeting with Minerva, and some crucial information emerges from Italian Renaissance, becoming available to Desmond in 2012.

The parallelism is stunning. Let us be sure to have grasped the main correspondences building an analogy between *AC2* and a journey into the unconscious (Table 45.2).

Desmond and Ezio are “the same person” in two different worlds. They are linked by their DNA, that in *AC2* is said to register the memories of the past. Thanks to the Animus, these past memories can be accessed from the present (2012) by Desmond. The journey into the unconscious, in Italian Renaissance, starts. Ezio is

Table 45.2 Instances of Assassin's Creed 2 and instances of the psyche

Assassin's Creed 2	Psychoanalytic theory
USA, 2012	Conscious life
Italian renaissance	Unconscious
Desmond	Ego
Ezio	Id
Giovanni, Maria	Superego
Animus	Couch
Lucy	Psychoanalyst
Templars	Repression
Minerva	Repressed memory

the *active half* of the subject: it is Ezio who actually acts and fights. Desmond on the contrary is the *passive half*, he watches and reflects, trying to give a meaning to Ezio's life. This relationship recalls the way in which Freud analyzed the subject into an instinctual Id and a conscious Ego. The Id produces the Ego to acquire consciousness and gives a meaning to its life, and so Ezio needs Desmond to receive Minerva's message and understand what it means.

The first drive guiding Ezio is the will to avenge his father's death. Freud wrote that the child (if male) engages a symbolic battle with his father to conquest the mother. The Oedipus complex terminates successfully if the child identifies with his father: the child acquires a stable personality, that results in a stable superego, internalization of the father figure, representative of cultural norms and roles. But if Italian Renaissance is Desmond's unconscious, how is his superego characterized? The father is dead: there is no father figure to refer to. Giovanni has been killed by Uberto Alberti before the Oedipus complex could conclude. Ezio (the Id) had to take his father's place too early, without having had the occasion to fight against him and mature. Ezio's mother, Maria, after the death of Giovanni becomes aphonic. To Freud, also the mother plays a role in the constitution of the superego. And what mother figure do we find? A very weak one, voiceless, incapable of telling Ezio what is right and what is wrong. The only role Maria plays in *AC2* is that of remembering Ezio the death of his father, therefore incarnating the feelings of guilt. There are all the signs of an Oedipus complex that did not resolve well: a weak superego, made of a dead father figure and of a mother figure without a voice, leaving the subject without a guide in his life.

Ezio finds in his father's emanations—the assassins—a help to resolve his Oedipus complex. He has to find a new father, a surrogate that he can fight and win. First, he tries with Vieri. Right outside of Florence, Vieri tells Ezio that he has killed his father Giovanni and that now he will possess his mother Maria. Therefore Vieri presents himself as a double of Ezio, as the person who stole the Oedipus from him. But Vieri is too young and weak: his death will only constitute a step in Ezio's journey to cure. Rodrigo Borgia is a more radical and powerful double. Rodrigo knows where the vault or crypt (from Greek: *kryptós*, "what is hidden") is and how to open

it: with the apple. To give a symbolic interpretation to the vault and to the apple is easy: the vault is the most inaccessible place in the entire unconscious, beneath the Sistine Chapel, at the center of Borgia's kingdom. It is the mother's womb, and it is there that Ezio has to go. The apple is the transitional object permitting the epiphany: it is an object related to the remote origins of the world (of the subject's childhood), hunted by both assassins and Templars. The apple is the memory of the mother's breast.

But then, what are Desmond and Ezio looking for? What was the trauma they are trying to overcome? They are searching for a new mother figure, *the real mother*, that repression has hidden deep down in the unconscious. Ezio has to forget Maria and accept the fact that his real mother was Minerva (presented in the game as the mother of humanity). The most important moment in all *AC2* happens when Ezio decides to abandon Maria in Monteriggioni, and he joins his uncle Mario in his fight against the Templars. It is then that the subject *chose*: the fake mother Maria will be replaced by the real mother Minerva. The subject chooses to fight repression and retrieve the real memories of his past. First he has to get the apple, symbol of the mother; then he has to defeat Rodrigo Borgia and obtain the staff, phallic symbol if any. With both the apple and the staff, he can relive his Oedipus and meet Minerva.

For the Christian tradition, Maria is a virgin. *Mother without father*, important figure in the Nativity. But then how can the unconscious have chosen this fierce name to represent a weak, voiceless and absent mother? Well, if we pay attention, it is true that in the birth of Jesus the father is hidden but much more powerful than the mother. Between God and Maria, it is clearly only God the one who matters. Therefore, Maria is a reasonable name for a fake mother figure. In mythology, we find a second famous virgin: Minerva. Minerva is born from Zeus alone, *daughter without a mother*. It is easy to see why there is no greater female figure than Minerva: she is wise, strong, and above all she did not even need a mother to be born.

What is happening? Ezio is substituting a fake mother figure with the real one. And when he manages to do so, the subject is cured: the message from Minerva passes across the unconscious and reaches Desmond (the Ego), telling him what to do—how to live his life (the mother tells her son that he is special, the only one capable of saving the world). We can finally understand what the trauma was. Minerva wanted humanity to stay in Eden forever, we learn this from the short in-game movie called *The Truth*; in other words, she wanted her child never to grow and leave the nest. Hyper-protective mother, Minerva's behavior was unbearable by Desmond, and for this reason he chose to hide the memory of her deep down in the unconscious, substituting it with a much weaker, catatonic mother figure.

The player helped Desmond to retrieve his past and to heal. Everything in the game acquires now a new role. For example, why did not Ezio marry Cristina, or Caterina, or Rosa? Because of the fact that he was not able to accept his real mother figure: all girls seemed too alive if compared to the catatonic Maria. Why did Ezio need to choose his uncle Mario over Maria? Because the name of the fake mother figure had to be mangled in order for the cure to start. Why does Minerva speak only to Desmond, and refuses to address Ezio? Because only the conscious self is capable of understanding, while the Id acts without being able to reason.

45.4 Conclusion

We have used Barthes' methodology to dissect and reassemble *Assassin's Creed 2*. We found that there is a hidden framework responsible for what appears to be the "readable" meaning of the game, as well as elements with the potential of extending the interpretation of it. Codes that are by no means specific to video games shape its sense, as they do for all other forms of expression. The specificity of video games lays in the way the codes are declined, and new expressive strategies invented. Video games are a powerful form of cultural expression that will become more and more complex and influential; underestimating gaming specificity could lead to poor critical analysis.

It would however be a bigger mistake to pretend that computer games came into existence from nothing, as a brick of *Tetris*, and do not interact with culture as a whole. This overestimation contributes (unintentionally) to the idea that computer games are not worth studying, not of interest to anyone but to specialists who design them. Game scholars defending the complete autonomy of the medium believe to be revolutionaries, but their position is actually *reactionary*, going back to the times when every language had to be studied on its own. The real "inactual consideration" today is that computer games are a fully fledged language, comparable to the other much older forms of human expression.

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Dario Compagno is a postdoctoral researcher at the Université Sorbonne Nouvelle in Paris, working on how to combine semiotics and data analysis for understanding digital media. Dario’s research interests include digital games theory and analysis: on the subject he has published *Dezmond. Una lettura di Assassin’s Creed 2* (Unicopli 2012) and edited *Computer Games between Text and Practice* (E/C 5, 2009) with P. Coppock. He has published papers on semiotic theory and philosophy of language. He works also as a consultant for marketing research and communication analysis.

Chapter 46

Virtual Worlds as Marketing Environments: The Case of Second Life

Nicky Athina Polymeri

Recent years have demonstrated how virtual worlds as entertainment and business grounds can prosper. They offer users the ability to take part in e-collaborations in gaming environments such as a Second Life and World of Warcraft. In addition, these environments offer researchers the opportunity to study the potentials of e-collaboration and e-commerce in virtual and gaming environments (Kock 2008). Virtual worlds and virtual communities can be a valid ground of business implementations and economic trials, as they reduce barriers to experimentation (Atlas 2008) and have changed not only the traditional process of trading but also the way that consumers and companies interact and communicate (Ozuem et al. 2008). Moreover, in marketing terms, “virtual worlds like Second Life are rapidly changing the brand marketing mix. Although it is an exciting time to be engaged in brand marketing given the new opportunities, it is also one fraught with uncertainty” (Combinedstory, DMD New York, Market Truths, 2007).

Second Life is just an example of the virtual communities that include everything from massive multiplayer online role-playing games (also known as MMORPGs) to virtual worlds like Second Life (Spaulding 2010). Jin and Bolebruch (2010, p. 3) refer to it as “a form of advergaming”, a word that argues the importance of advertising in the actual game, and designates the consequence of marketing communications and brand management.

Literature has shed light upon the use of marketing strategies over the Internet, but has not explored in depth the reasons behind the acceptance or failure of specific types of business in the virtual worlds (Spaulding 2010) and how these special communities, that have their own culture, values and expectations, accept the companies’ value proposition. This research aims at addressing this gap, by emphasizing the consumers’ or gamers’ perspective, and how these potential real-life customers experience the Second Life offer by the firms that are active in virtual world platforms.


N. A. Polymeri (✉)
University of Southampton, Southampton, UK
e-mail: nickypolymeri@gmail.com

The role of virtual goods in virtual worlds has been argued extensively; some academics, as Martin (2008), insists on the symbolic value of purchasing or exchanging virtual goods among avatars, as virtual shopping is forming a widespread consumerism, due to the fact that they do not meet the users’ immediate needs. Park et al. (2008) formed an academic model of brand equity in this virtual environment, based on this statement, which links the environment and business affordances to enhance the flow state in order to increase perceived brand equity.

However, as Park et al. (2008) state, there is relatively little research in identifying a full and comprehensive list of all affordances that may help businesses in enhancing an experience flow of customers and avatars, in order to increase the perceived brand equity specifically in virtual communities. Arakji and Lang (2008, pp. 215) note that real business should realize that “virtual worlds are more than just another marketing channel for real world products”. These Internet-based simulated environments that imitate the real world (Hua and Houghton 2009) are excellent online shopping environments that may enhance brand marketing through “physical presence in 3D interface” (Jin and Bolebruch 2010, p. 2).

The evolution of the Internet and hence the evolution of virtual worlds has created new standards in the human interaction as well as the business growth. Halvorson (2010) presents the evolution of virtual worlds as follows (Fig. 46.1, Halvorson 2010, p. 9):

Halvorson (2010) argues that the virtual environment phenomenon has risen after the second phase of the digital world, when the revolution on the Internet began. However, Wood (2011) states that the virtual environments have existed since the launch of the Internet, circa 1985, when multi-user dungeons, an online virtual game, started using computer graphics to represent the virtual reality and its payers.

	TECHNOLOGY		INNOVATIONS
	Computer		Digital Age
Stage 1	Games	PC	Graphical User Interface
Stage 2	Virtual Reality	Internet	E-mail
		WEB 1.0	Websites
Stage 3	MMOG		VIRTUAL WORLDS <i>including</i> Second Life
	UCOVE		
Stage 4		WEB 2.0	Social Media, APP
Stage 5		WEB 3.0	Semantic Web
Stage 6		WEB 4.0	Virtual Reality Interface

MMOG: Massive Multiplayer Online Games, UCOVE: User Created Online Virtual Environments

Fig. 46.1 Evolution of virtual worlds (Halvorson 2010)

Wood (2011) is giving several examples of companies that are successful in Second Life and explains that the corporate world is joining the virtual gaming experience for the main reason of reaching out to their consumers; since the digital environment is more helpful in measuring the marketing effectiveness, companies take advantage of it. In addition, in a world that users find it easier to understand, companies create foster relationships with them, interact more easily and comprehend their needs, present a great opportunity for business and play an important role for marketing (Wood 2011).

46.1 Marketplaces and Metaverses

There is no doubt, however, that these Internet-based interactive marketplaces have created new forms of social communication and identity formation. Virtual communities in any form of their presence in the cybermarketscape—identified by Venkatesh (1998, p. 13) at their early appearance as “a public space, a community space, as well as a private space”—can be influenced by businesses and deliver value to the new market created by avatars. These synthetic worlds are cultivating and establishing advanced in-world economics by offering a prospective ground to users in order to develop virtual economies with their own currency and virtual business activities (Castronova 2005), that are known as virtual commerce or v-commerce (Atlas 2008; Arakji and Lang 2008; Spaulding 2010; Teigland 2010). Papagiannidis et al. (2008, p. 476) have researched this evolution of traditional in-store commerce to electronic trade and have concluded to their research about how this electronic transaction has evolved to the worlds of metaverses, “a phrase first used in Neal Stephenson's novel *Snow Crash*, in order to describe how a virtual reality-based Internet might evolve in the future”.

A definition that Cascio et al. (2007, p. 4) give for the metaverse is “the convergence of (1) virtually enhanced physical reality and (2) physically persistent virtual space. It is a fusion of both, while allowing users to experience it as either”. In other words, the metaverse is exactly the usage of 3D tools that lead to the visualisation of the virtual worlds for the user and create interaction among the community. Papagiannidis (2008) refers to the rise of the metaverse by noticing that it is materialised in MMORPGs, which stimulate the user's creativity and self-expression by giving the player the freedom to create the representative character that he/she desires.

46.2 Virtual Environments and Business

Cagnina and Poian (2007), in their study, try to categorize companies that are active in virtual worlds, according to the nature of their business in these environments. The first category is real-life companies who have joined virtual worlds in order to expand their real value and coordination mechanisms mainly by providing support

to users. The second category are those companies who are real-life based but use all potentials of the virtual worlds and their communities, including applications and web tools, while they provide products and services especially developed for the Second Life residents. The third and last category consists of companies who are Second Life based, and they are fully dependent on the provider's platform. They use the Second Life Grid, in other worlds, the open-source viewer code, as their programming language, and are fully using the potentials of the metaverse shops and applications in order to do business with the residents, interact and communicate effectively with them, while collecting their data in order to enhance their digital presence.

As Tikkanen et al. (2009) highlight, marketing in virtual worlds nowadays is strictly limited to advertising and product placement. However, marketers should take advantage of the potentials of virtual environments, as customer interaction and communication tools, and create a strategy towards customer engagement in order to create value for them in the virtual framework. In response to this position, Messinger et al. (2009) have created a refined typology of virtual communities, based on Porter's typology of 2004. They suggest a number of questions in the virtual reality context, including the areas of business, advertising, market research in virtual worlds and marketing management. While replying to these questions, they have actually reformed Porter's five Ps of the virtual world marketing, which are purpose, place, platform, population and profit model, by adding five new elements in order to create more accurate and reliable results for the companies. These new questions that are added to Porter's Ps are "for what purpose", "where", "how", "who" and "how much".

The matter of brand loyalty, customer engagement and the value proposition from the organization's part to the customer—or in the case of virtual environments, to the interactive user—is discussed in Spaulding's research (2010), in the part of the marketing application to virtual reality. In interest-oriented communities, for example, brand loyalty can be effectively achieved through obtaining objective and reliable information, when it is needed. On the other hand, the author concludes that in fantasy-oriented communities, like Second Life, brand loyalty needs to be examined more closely, as it is not impossible to happen. However, it is widely highlighted that virtual realities like Second Life are used from businesses in order to be used as advertising and product placement environments, which has a negative effect on the community (Spaulding 2010; Tikkanen et al. 2009).

Literature has shown the progress and development of social behaviour over time in virtual communities like Second Life (Harris et al. 2009) and has mapped the demographics of virtual worlds (Spence 2008; Wyld 2010), proving, among others, that people under the age of 35 shape almost 60% of the active users' population pie and that UK is the third country with most active avatars in the world (Linden Labs 2008). A reflection on the size, shape and form of virtual communities (Spence 2008) will help to discover all potential marketing prospective and target groups in which organizations wish to create brand awareness. Predominantly, what has been found in this research is that most of the functions in virtual worlds are focused on

socialization and chatting, and on these grounds, we can make a case of Kaplan and Haelein's (2009) argument that virtual worlds are first and foremost social networks used as the new social media. In addition, Spence's research in 2008 indicated that almost 60% of the projects that he examined did not follow the strict definition of virtual worlds and gaming environments; what can be assumed from this fact is that companies can work their way in virtual reality, by using several communities provided from the emerging Web 3.0. These virtual communities are well presented by Spaulding (2010), after his theory on social contracts in virtual communities, as first presented by Rousseau in 1762, and his argument that in social contracts of that matter, trust is the most important factor among virtual community users.

46.3 Consumerism, Virtual Goods and Social Behaviour in Virtual Worlds

Consumerism in virtual communities has also been discussed (Dechow 2008), while findings have publicized that in some cases the "easy owning" of Second Life and other massively multiplayer online games can actually raise desire for real-life consumption (Landay 2008). Consumer behaviour in virtual reality environments has been examined thoroughly, as it is the basis for every marketing and business attempt in these worlds. Harris et al. (2009) have analysed this topic using formulas and keeping in mind the demographics of these environments, while Landay in 2008 has suggested several questions that need to be answered before moving forward to actually creating a digital marketing strategy of that kind, like, for example, what does it really mean to consume and own something in a virtual world. The cases of consumerism and commodification—as she calls it—are under the microscope once again. In her own words, "virtual commodification is a process of transforming experience, ideas, and ideas about the self into the quantifiable products of inworld consumer culture, and placing those products in a social context in which people define things in terms of themselves, and themselves in terms of things" (Landay 2008, p. 4), while in Second Life, users and their avatars own nothing more than their appearance and goods. On the other hand, Dechow (2008) defines this consumerism in virtual life by the term surveillance, first introduced by Giddens in 1987, and indicates that this surveillance can be used in favour of the companies in order to create tailored advertising and therefore marketing campaigns to the users of the avatars, since the avatar's history of its presence in the game has already been collected and can be used as data.

Several academics have considered and reviewed the relationship between avatars and users and their social behaviour (Messinger et al. 2008); there are yet several issues on this topic to be examined, such as why do users actively use multiple avatars. The examination of social construction on virtual communities like Second Life proves that marketers in real world can effectively promote their products in such communities by offering items and services that fit this cybermarketscape and

the avatars' special needs and wants (Boostrom 2008). Venkatesh (1998) studied thoroughly the implication of marketing in cyberspaces and cybermarketscapes, and the difference between these two parallel worlds. The definition of the cyberspace environments in their early appearance as both public or community and private spaces (Shields 1996; Turkle 1995; as cited at Venkatesh 1998) has been mentioned above. As technology has moved forward from the researcher's futuristic—at the time—theories and research, nowadays, the cybermarketscape is an emerging and fertile place for business. Boostrom (2008) is encouraging marketers of real world to invest on virtual community support of their products in these spaces, as a better approach of that kind may prove to be successful; however, he insists on creating tailored products, especially for these environments.

The role of virtual goods in virtual worlds has been argued extensively; some academics, such as Martin (2008), exhibits the symbolic value of purchasing or exchanging virtual goods among avatars, due to the fact that they do not meet the users' immediate needs and therefore a widespread consumerism is formed. This statement has already formed in literature a model of brand equity in virtual world environment (Park et al. 2008), which links the environment and business affordances to enhance the flow state in order to increase perceived brand equity. In this matter, Park et al. (2008) quote Schwarz in 2006, which is the historic point when the emerging market of virtual communities started to blossom, by pointing out that the biggest and most precious advantage of businesses being involved in virtual worlds is actually customer engagement, as marketers nowadays cannot easily attract customers' attention. The writers have shown that affordances can be used as an enhancement to customers' experience, as well as the increasing levels of enjoyment and interaction with the actual company. Through this way, brand equity can be increased. These affordances lead to certain control, content and process characteristics for people and therefore users of the virtual experiences that the company is offering, and through these characteristics and by interaction, "various outcomes of flow are possible" (Park et al. 2008, p. 13).

46.4 Real-Life Cash and Linden Dollars

Mitham (2010) presented on his paper the latest Kzero research on virtual goods revenues that reveals one of the fastest growing areas of the Internet. The results show that by 2012, the overall market revenues will reach US\$14 billion (Fig. 46.2, Mitham 2010, p. 4).

Mitham (2010) argues that this profit, that derives from real-life cash that gamers are willing to spend online, is a result of the relationship between the user behind the screen and the avatar that lives the Second Life. The research of Messinger et al. (2008) presented that gamers are represented by their avatars when they are logged in to their games. They found that people customize their avatars so that they appear similar to their real lives, while gamers with less confidence in real life create more attractive avatars, spend more money for their customization and sometimes they

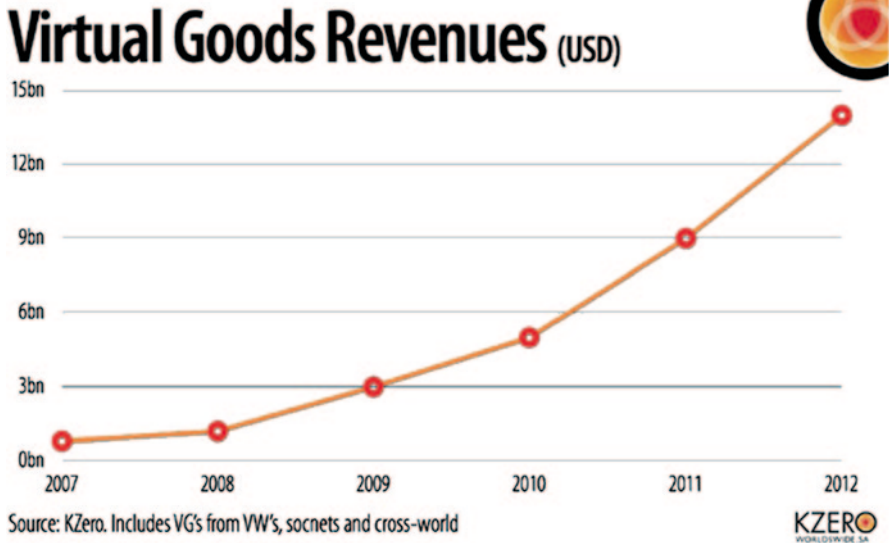


Fig. 46.2 Virtual goods revenues (Mitham 2010)

even change their gender, when playing online (Messinger et al. 2008). Salomon and Soudoplatoff (2010) present a comment on a blog, which raised the question why people pay for digital goods. The authors in their paper explain that “in our time, people buy digital goods for the same reasons they buy products in real world” (Salomon and Soudoplatoff 2010, pp. 6). They also add that the production cost of a virtual good is very low, and hence the real value of it is the perceived value from the actual user (Salomon and Soudoplatoff 2010).

Real-life economy and virtual economy is a topic that is analysed and researched by Kieger (2010) as well: He argues that entrepreneurship can indeed be favoured in virtual worlds, given the fact that all necessary conditions are fulfilled. Basically, the new technology is giving new sources of revenue, the entrepreneurs are willing to spend real-life currency and the virtual economy is well understood (Kieger 2010). Tasner (2010) adds that in addition to the comfort that virtual worlds can offer, the marketing activities in a digital environment can be measured and the return on investment (ROI) can be effectively tracked. Taylor (2006) adds that players are enlisted as unpaid, yet they form data testing samples for business, since the digital environment is an encouraging measure of analysis, and at the same time, they act as quality assurance for the game itself. Wood (2011) states that gamers are willing to spend real-life currency for their premium memberships, landownership, avatar accessories and enhancement, even tickets to their favourite events and shows.

Taylor (2006) argues that players are producers, and Castronova (2007) reinforces this idea by explaining that the basic structures of the gaming industry conclude to three layers of activity: “development, publication and retail sales” (Castronova 2007, p. 23). In virtual reality, gamers can sell their creations or skills, and on the

other hand, either they can make enough money to cover real-life expenses or the real-life income will be consumed in game expenses (Castronova 2007). Concluding, he insists on the fact that games are designed to make their users happy. The “fun economy”, as he calls it on his book (Castronova 2007, Chap. 8, p. 137), can produce real-life profit if it succeeds in offering the users what games are designed to offer: fun.

46.5 Virtual Potentials

However, as Park et al. (2008) state, there has not been relatively sufficient research in identifying a full and comprehensive list of all affordances that may help businesses in enhancing an experience flow of customers and avatars, in order to increase the perceived brand equity specifically in virtual communities. Arakji and Lang (2008, p. 215) note that real business should realize that “virtual worlds are more than just another marketing channel for real world products”. According to Castronova (2005, 2007), virtual worlds in their three-dimensional, interactive cyberspace represent their user through an avatar. However, businesses need to establish a more precise and accurate decisive factor for them to follow with and integrate with their real-life business. These Internet-based simulated environments that imitate the real world (Hua and Haughton 2009) are excellent online shopping environments that may enhance brand marketing through “physical presence in 3D interface” (Jin and Bolebruch 2010, p. 4). In fact, their research has proved that the vividness and realistic approach of the three-dimensional interactive space such as Second Life “can induce brand–self connection and positively affect brand credibility” through the actual physical presence of the user (Jin and Bolebruch 2010, pp. 9). Shen and Eder (2009a) enhance this idea with their study, by underlying the importance of enjoyment for gamers using the Second Life experience. In fact, marketers and businesses should keep in mind that the Second Life residents are interacting and communicating in the game for their personal pleasure, as this is a game made primarily for fun. Companies should therefore find interesting and engaging experiences for their clients and the game users if they are interested in adopting the virtual world field for business purposes.

46.6 Implications in Marketing

Until recent years, Second Life marketing has been experimental, although Internet advertising was growing fast. According to the German marketing company Komjuniti,¹ almost one third of the companies that were practising marketing activities in Second Life were not satisfied, and 7% claimed that these activities were not influencing positively their brand image or the real-life purchasing behaviour. However, this trend is

¹ <http://grassshackroad.com/second-life-komjuniti-survey>.

changing year by year, as the gaming industry is a highly competitive and rewarding field in terms of marketing opportunities; in addition, the gaming industry revenues are growing faster every semester. In the USA alone, in 2010, the virtual goods revenue hit US\$1.6 billion.² Virtual goods are products and services that do not exist in real life, but their purchase requires real-life currency. On the other hand, companies have not yet established proper virtual world marketing plans and this results to the disappointment of the gamers and users. Particularly in Second Life, residents are claiming that companies only spend money to build their virtual offices in isolation, without trying to offer something valuable to the community, or to try to engage with it (Tikkanen et al. 2009). Even though Tikkanen wrote about these residents' arguments in 2009, a research in virtual blogs can reveal that this tendency is present for most companies until today. Marketers nowadays do not understand that even though virtual worlds and games like Second Life as mediums can reach a large number of people—and hence real-life consumers—because these communities are based in loyalty and trust, they can work as a very effective and engaging tool. Therefore, companies should first understand the values and trust issues that occur in these virtual communities, as well as their demographics that arise from the anonymity, before proceeding to a virtual world marketing plan. Kaplan and Haenlein (2009b) presented the findings of their research on consumer use and customer behaviour in Second Life and showed that Second Life users consider the game and the community in all as “an extension of their Real Life” (Kaplan and Haelein 2009b, p. 99). Gamers are engaging in social and business activities and are building relationships while they are trying to earn money, and in the meantime, they are spending money for purchasing goods and services (Kaplan and Haelein 2009b).

When it comes to marketing activities, gamers are responding after gathering information from the virtual community and their virtual friends, and hence, the decision-making process is a result of word-of-mouth communication. Particularly, de Valck et al. (2009), studied the influence of the virtual communities in the consumer decision-making process and showed that customers are going through seven stages when they want to make a purchase decision: first, they need recognition from the community and then they search for information on the goods they want to purchase. Afterwards, they evaluate with others the alternatives. Then comes the stage of actual purchase and consumption, while after that, they discuss with the rest of the community the experience (post-purchase evaluation), and finally comes the stage of divestment (de Valck et al. 2009, p. 188).

46.7 The Matters of Trust in Virtual World Marketing

For virtual worlds and communities, the matter of trust plays a key role. Fullbrunn et al. (2011) studied the importance of trust and trustworthiness in virtual worlds nowadays, since these worlds are highly important due to their economic significance and the fact that hundreds of millions of users are active and are exchanging

² <http://venturebeat.com/2010/01/26/as-farmville-players-buy-little-pink-tractors-u-s-virtual-goods-revenue-is-expected-to-hit-1-6b/>.

information every hour. Their experiment gave evidence that, even though the extremely high levels of anonymity in these environments, “a very high degree of trustworthiness seems to indicate that the Second Life population is actively enhancing a cooperative and trustworthy environment” (Fullbrunn et al. 2011, p. 57). Kim et al. argue on this matter by adding “it is directly and indirectly related to other factors such as usefulness, commitment, sense of community and loyalty” (Kim et al. 2009, p. 168).

The second element that is crucial to virtual world marketing is the feeling of comfort and loyalty in a community, hence feeling part of a community and staying engaged to the relationships that the gamer has created (Harris et al. 2009; Park et al. 2008). As mentioned before, virtual worlds and virtual reality are not only a game but also a community in which players interact and engage with each other, while at the same time, they feel as part of a group and ask for information while they are on the decision-making process. Kim et al. agree to this perspective, while the findings of their study show that when a marketer is increasing the sense of community, the chances of using these virtual groups as marketing channels are well enhanced (Kim et al. 2009). This can also be achieved by finding ways of increasing trust levels among the members of these communities (ibid.). Their study has also shown that when a marketer is providing the members with a level of reality, especially when it comes to profit-oriented virtual communities, there has been marked increase in the levels of participation and commitment (ibid.). Spaulding (2010) wrote about the correlation between virtual communities, their own social contracts and the expected trust among the members of the community, in order to create value for business. He argues that since virtual communities have their own culture and expectations and since the matter of trust is more likely a matter of predictability, some business are accepted and some are not. Virtual communities like all communities, real life or not, are subject to social contract, and trust plays a significant role on that (Smith 1999, as cited by Spaulding 2010). Some companies fail to be accepted, because they do not fulfil the requirements of these social contracts and trust. More precisely, virtual communities have created these social contracts to develop in harmony, and behavioural expectations are dictated by the purpose of the community. When they are allowing a person to join this community, they are placing some level of trust on that person that will fulfil the social contract. If that person fails to respond to the requisites of the social contract, then it is removed from the community (Spaulding 2010). This trust can lead to high levels of loyalty, but companies need to engage with gamers and users through the social contracts that they have already created.

46.8 Companies, Business and Marketing in Virtual Worlds

Virtual world residents are very demanding and keep on asking for something new and interesting, exactly the same way real-life consumers behave. One of the reasons why people are logging in to Second Life at first place is to get away from their

own real life, even though these two worlds are strictly connected to each other. As Spaulding (2010) states, Second Life is part of the MMORPGs and part of the fantasy-oriented communities. Residents are allowed to play out their fantasies, as if it is a virtual movie of themselves, while, at the meantime, they are destroying the sense of reality (Spaulding 2010). Principally, one of the most important unwritten rules of the game is that real-life information on the residents cannot be shared from others to the rest of the community, and this way, complete anonymity is secured. In their study, Tikkanen et al. (2009) have indicated several points that companies should adopt or ameliorate in order to have a successful marketing strategy in Second Life. First, companies should have representatives in the virtual offices in order to engage more with customers who want information or goods (Tikkanen et al. 2009). In fact, experience has shown that companies should also consider the time zone differences among all residents in Second Life, as this virtual world is hosting people who live in real life in many different places of the world. Kaplan and Haenlein (2009a) agreed by mentioning that their experiments have shown a strong desire of Second Life residents to find real-life products in the virtual world, and therefore, there is a correlation between these two elements, as well as a willing for purchase. However, some companies believe that by simply creating a virtual store, it will be enough virtual advertisement; Kaplan and Haenlein (2009a) disagree by insisting that setting up a virtual store is not a marketing strategy, as residents need constant attention and strong engagement, like in real life. They add that companies should create events and interesting activities in order to create value to the Second Life residents who are very demanding, and they present the case of Coca-Cola and Dell. Coke in 2007 invited some Second Life guests to the virtual premier of the *Happiness Factory* movie, while Dell launched a few months afterwards a party for its Crystal monitor that was mirroring the real-life event that was happening meanwhile (Kaplan and Haelein 2009a). Therefore, real engagement should be considered from the companies' point of view in order to have a successful virtual marketing campaign.

Second, "virtual world marketing should be integrated with other marketing channels" (Kaplan and Haelein 2009b, p. 65), and more precisely, to engage with customers in and out of the virtual world, like, for example, offering coupons for a discount from their online shop in their website and vice versa. In addition, companies should take into consideration all online tools of social networking and hence promotion and advertising that are offered through the Internet. Finally, companies should be more innovative and interesting when they are dealing with Second Life residents and virtual world users in general. In fact, Tikkanen et al. (2009) present the opinion of many bloggers who state that companies should have something interesting in their locations—virtual places in the game—in order not only to drive traffic in them but also to keep customers' interest.

Recent studies have shown that, similar to real life, Second Life users, according to their demographics, personalities, needs and wants, have different motivations when it comes to purchasing goods or services. The motivation for using Second Life does not correlate directly to particular products that the users are actually purchasing (Shelton 2010). Therefore, the consumer behaviour in virtual environ-

ments is a matter far more complicated than it seems, as it is in fact a world similar to real life, where consuming behaviours are hard to be traced. Lui et al. (2007, p. 78) state that “businesses considering entering 3D virtual worlds should consider the attributes of their products that can be experienced virtually and map out their marketing strategies accordingly”.

46.9 Second Life Economics

The relationship between Second Life and real life is considerable, both socially and economically. Castronova (2005, 2007) has made an association between the economies of the virtual world and the physical world, and since economics occur, marketing emerges as well. Zachariasson et al. (2010) have shown that the virtual market structure, as far as marketing and economics are concerned, consists of:

- Money that comes from the real world and goes to the virtual world.
- Transactions within the virtual world that occur with the virtual world currency.
- Influence from the virtual world to the physical world, as previously discussed.
- Relevance to the virtual world transactions that happen only within the real world.

Contrary to other fantasy-oriented games (Spaulding 2010), like the World of Warcraft, Second Life looks like the real world and functions as a parallel world as well, which makes it easier for a marketer to interact with its residents, in addition to creating virtual value for their brand. Furthermore, as mentioned before, Second Life has got its own currency, the Linden dollars, which can be converted in real-life American dollars that have got value for the real world (Cagnina and Poian 2007). Martin (2008) began the discussion about Second Life consumerism and he insisted on the symbolic value of virtual shopping. He argued that a consumerism is formed widely, as the avatars' needs do not meet the immediate users' needs (Martin 2008). However, consumerism in virtual worlds is a reality we cannot ignore, as recent reports reveal the great economic importance of the gaming industry. Mitham (2010) presented the revenues of virtual goods and their importance to modern economy, based on the latest Kzero reports, and he argued the relationship between the real-life user and his or her avatar, when they switch roles and become Second Life gamers. Messinger et al. (2008), Mitham (2010) and Salomon and Soudoplatoff (2010) all insisted on this relationship among avatars and gamers, and discussed the reasons why gamers spend real-life money for purchasing virtual goods. They stated that users need to customize their avatars in a way that they are similar to their real selves (Messinger et al. 2008), while Salomon and Soudoplatoff (2010) through their research showed that consumerism is driving this money to be spent, similarly to real life.

Why people are willing to spend real-life money for purchasing virtual goods in Second Life? Consumerism is the driving force behind the decision of the gamers to spend their real-life money and change them into the virtual currency, Linden

dollars. Gamers like to go shopping and try different things. The gamers themselves also added that it is very important to them to look attractive and to acquire accessories and clothes that can help them enhance their creativity and fantasy. This specific virtual game gives players the opportunity to be what they cannot be in their real lives, and this makes it part of the fun experience. The “fun economy” was discussed by Castronova (2007) as well, and therefore, the findings verify partially his theory. Shen and Eder (2009b) wrote about the idea of the game enjoyment, as they suggested that marketers should bear in mind that the residents of Second Life are using this game for their personal pleasure and fun. Castronova (2007) explained that games are designed to make their users happy, and the more they succeed on their mission, the more they attract people and can be productive as a virtual world and a virtual community. In addition, Wood (2011) stated that gamers are willing to pay real-life cash in order to get land, housing and premium memberships. However, Messigner et al. (2008) argued that users of these games tend to customize their avatars in a way that they can depict their real-life selves, while on the other hand, more timid and less confident people create more attractive avatars. But gamers join the game in order to have the freedom of creation and to be in a fictional world what they cannot be in their real lives. They also tend to spend real-life money in order to acquire the accessories and clothes and avatars that they could not get for free. The big majority of the gamers admit that they have this tendency because they want to differ from other avatars, expose their experience in the game and reveal statements about their personalities, sexuality and abilities. Martin (2008), Park et al. (2008), Mitham (2010), Boostrom (2008) and Harris et al. (2009) argue that the relationship between the avatar and the real self is of extreme importance for the gamers. In fact, an avatar is an “extension of himself or herself”. Salomon and Soudoplatoff (2010) concluded that “in our time, people buy virtual goods for the same reasons they buy products in real world with the difference that in Second Life, fantasy is ruling the world”.

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Nicky Athina Polymeri studied communications, media and culture at Panteion University of Athens, Greece, and obtained her M.Sc. in marketing management at the University of Southampton, UK. She is currently a doctoral candidate at the Winchester School of Art, University of Southampton, UK, and her Ph.D. research focuses on the economic recession in Greece, its social and cultural implications and how it affects heavy-metal music concerts. She has worked as a communications specialist and artist manager for various music bands across Europe, and as a freelance journalist in Greece.

Part VII
Cognitive Semiotics

Chapter 47

Cognitive Semiotics

Jordan Zlatev

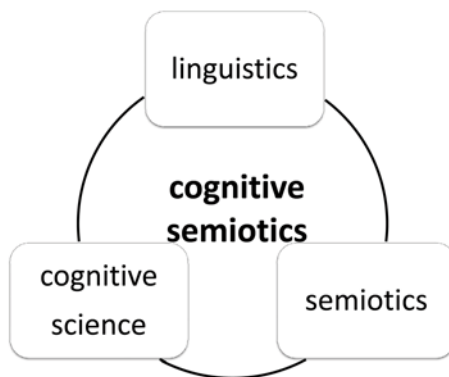
47.1 Introduction

Cognitive semiotics (henceforth Cogsem) is a new interdisciplinary, or rather transdisciplinary (cf. Sect. 47.4.5), field focused on the multifaceted phenomenon of meaning, “integrating methods and theories developed in the disciplines of cognitive science with methods and theories developed in semiotics and the humanities, with the ultimate aim of providing new insights into the realm of human signification and its manifestation in cultural practices” (www.cognitivesemiotics.com). This admittedly broad definition should be further extended to include investigations of meaning making by nonhuman animals. As shown in this chapter, while Cogsem researchers may indeed focus on what is specific about human forms of semiosis, there is widespread agreement that this can only be properly understood in a comparative and evolutionary perspective.

Thus, Cogsem cuts through and stretches across existing disciplinary divisions and configurations. For example, it is *not* to be seen as a branch of the overall field of semiotics, defined in terms of either “domain” (in the manner of, e.g., biosemiotics, semiotics of culture, or social semiotics) or “modality” (e.g., visual semiotics, text semiotics) as it involves linguistics and cognitive science no less than semiotics. Not belonging to a single discipline, it is not a particular semiotic “school” (e.g., Peircean, Saussurean, Greimasian), and even less a particular theory. Unfortunately, these are common misinterpretations of the label “cognitive semiotics,” given its instantiation of the modifier-head construction. But labels, while useful for organizing both concepts and fields of knowledge, are not essential, and many de facto Cogsem researchers do not attach the label to their work.

J. Zlatev (✉)
Department for Cognitive Semiotics, Centre for Languages and Literature, Lund University,
Lund, Sweden
e-mail: jordan.zlatev@semiotik.lu.se

Fig. 47.1 The approximately equal indebtedness of cognitive semiotics to linguistics, semiotics, and cognitive science; it can be seen as both integrating and transcending these fields



At the same time, Cogsem is not just a new and fancier name for (traditional) cognitive science. The relationship between these two interdisciplinary matrixes is complex and deserves more attention than can be given here. There is considerable overlap between more recent approaches in cognitive science such as “embodied cognition” (cf. Sect. 47.2.5), and in a number of ways, the relationship between Cogsem and Cogsci is still open to negotiation, and some notes on possible convergence will be suggested (cf. Sect. 47.4.5). Still, cognitive science has from its onset in the 1950s adopted an explicitly *physicalist* (computational and/or neuroscientific) take on mind, connecting to the humanities quite selectively, with strong reductionist tendencies, viewing mind and meaning as ultimately physical phenomena (Dennett 1991). Cogsem is, as shown in this chapter, considerably more pluralist in its ontological and methodological commitments, and thus, with a firmer foot in the humanities than cognitive science. With respect to linguistics, Cogsem focuses on semantics and pragmatics, and is clearly influenced by ideas emanating from the linguistic school known as “cognitive semantics” (cf. Sect. 47.2.1), at the same time as it goes well beyond purely linguistic concerns. The fact that Cogsem owes as much to semiotics, as to linguistics and cognitive science, while also going beyond them, is displayed in Fig. 47.1.

The following two sections present a nonexhaustive survey of Cogsem research, aiming to give the reader a broad overview of the field. Section 47.2 briefly summarizes the research areas that Cogsem is most obviously related to: cognitive semantics, gesture studies, (language) evolution, semiotic development, and the embodied mind. Most of this research predates the emergence of Cogsem and can be seen as contributions to the establishment of the field. Section 47.3 summarily reviews the work of groups and academic institutions that explicitly refer to Cogsem, in many cases elaborating ideas mentioned in the preceding sections. The survey in these two sections allows formulating a number of generalizations on what Cogsem deals with and how it does so, which is the topic of Sect. 47.4. Finally, I return to the questions of why Cogsem is needed and what its ultimate contributions to science and society could be.

47.2 Contributing Fields

The fields of research briefly summarized in this section can be seen as forerunners of cognitive semiotics. At the same time, since the boundaries between Cogsem and these contributing fields are porous (cf. Fig. 47.1), at least some of the work and people concerned may just as well be regarded as belonging to the field itself.

47.2.1 Cognitive Semantics

Cognitive linguistics and its most prominent subfield cognitive semantics arose in the late 1970s in reaction to the dominance of formalist and modular approaches to language and cognition, such as Chomskyan linguistics and computationalist cognitive science. Unlike these, cognitive semanticists like George Lakoff, Ronald Langacker, and Leonard Talmy claimed that language is above all characterized by meaning, and that linguistic meaning is continuous with cognition and consciousness. At least in the earlier works, such claims were presented as part of a more general philosophical enterprise called “experientialism” or “embodied realism” (Lakoff and Johnson 1980; Lakoff 1987; Johnson 1987). Lakoff and Johnson (1980, p. 181–182) described this as being indebted to “central insights of the phenomenological tradition, such as the rejection of epistemological foundationalism, the stress on the centrality of the body in the structuring of experience, and the importance of that structure in understanding.” More recently, cognitive semanticists have employed an increasing batch of “hard” empirical methods such as neuroscience and corpus linguistics, leading to tensions with qualitative methods based on the use of intuition and introspection (Lakoff and Johnson 1999; Geeraerts and Cuyckens 2007). Still, given that the cognitive semantics tradition has always emphasized the richness and variety of human experience—bodily, social, and cultural—it has been possible to avoid reductionistic pitfalls, and to combine various methods in pluralistic frameworks (Harder 2010), often informed by phenomenology (Zlatev 2010). At least the following three theoretical concepts have enjoyed considerable influence, inviting various elaborations and extensions: image schemas, conceptual metaphors, and construal processes.

Based on ideas from Kant and Merleau-Ponty (1962/1945), Johnson (1987) proposed the notion *image schema* as “a recurring dynamic pattern of our perceptual interactions and motor programs that gives rise to coherence and structure to our experience” (Johnson 1987, p. xiv), and furthermore, that such schemas organize meaning in thought as well as in language. The most well-known examples are the schemas CONTAINER, PATH, BALANCE, PART–WHOLE, and FORCE. Such gestalt-like analog, nonpropositional structures allow reasoning (e.g., X is INSIDE Y, Y is INSIDE Z => X is INSIDE Z) without the need for formal rules. Thus, it is conceivable how they could “ground” more abstract thought and language in bodily experience. While there is considerable theoretical divergence concerning the na-

ture and role of the concept (Hampe 2005), and also concerning the meta-theoretical concept of *embodiment* (Ziemke et al. 2007), it is fair to say that much productive research would never have arisen without the original proposals.

A similar assessment can be made on what is now known as *conceptual metaphor theory*, an extensive body of research based on the original *Metaphors We Live By* (Lakoff and Johnson 1980), that changed the traditional meaning of the term “metaphor” by claiming that metaphors are essentially conceptual “cross-domain mappings” used in thought, and only secondarily expressed in language. Some of these mappings have been argued to be “primary,” e.g., SIMILARITY IS CLOSENESS, and based on presumably universal prelinguistic experience (Grady 2005). Such universalistic implications have been controversial, provoking extensive cross-cultural and crosslinguistic research to test, for example, the universality of mappings from SPACE to TIME (e.g., Levinson and Majid 2013). Considerable variation has been documented, as well as the likely role of external representations such as calendric systems, but on the whole, multidisciplinary research involving language, gesture, and experimentation have supported the claim that explicit temporal concepts are structured in spatial terms.

A third way in which cognitive–experientialist semantics has contributed to a richer concept of meaning is by emphasizing that language does not relate directly to “objective reality” but to the way what the speaker wishes to say is *construed*. Langacker’s (1987) theory of cognitive grammar specifies a number of different aspects of construal such as *profiling*, where a speaker can choose to profile either the agent (1a) or the instrument (1b) by using it as a grammatical subject.

1. a. *The man* smashed the glass with a hammer.
- b. *The hammer* smashed the glass.

Another aspect of construal is *mental scanning*, which could be either (more) “summary” as in (2a) or “sequential” (2b)

2. a. He entered the room.
- b. He walked into the room.

Dynamic conceptual processes are also reflected in a widespread linguistic phenomenon, analyzed as “fictive motion” (Talmy 2000) or as “subjective motion” (Langacker 1987), reflected in the contrast between (3a) and (3b).

3. a. The mountain range goes from Canada to Mexico.
- b. The mountain range goes from Mexico to Canada.

While these sentences represent the same state of affairs, i.e., the spatial extension of a certain mountain range, they are arguably not synonymous, and linguistic meaning should include aspects of nonlinguistic cognitive processes of perception and imagination, without being reducible to them. Such issues have been pursued by a number of Cogsem researchers (Brandt 2013; Blomberg and Zlatev 2013; Blomberg 2014).

47.2.2 *Gestures*

The study of gestures—involving various degrees and kinds of iconicity, indexicality, and conventionality—has from the start called for a more or less explicit semiotic analysis (Kendon 2004). Efron (1941) and later Bouissac (1973) provided proposals for how such analyses could be made more systematic, in part through the availability of new technology for recording and analysis. During the 1980s, thanks to the concerted work of Adam Kendon (1980, 2004) and David McNeill (1992, 2005), “gesture studies” began to emerge as a more or less independent interdisciplinary field.

McNeill’s approach is explicitly psychological, with references to developmental and neuroscientific evidence, and links to cognitive linguistic concepts such as image schemas and conceptual metaphors (cf. Sect. 47.2.1). His longtime concern has been the treatment of gesture and speech as a single cognitive–semiotic system, though with a degree of division of semiotic labor: gesture being more “imagistic” and speech/language more propositional. In *Gesture and Thought* (2005), McNeill echoes Vygotsky (1962/1934) and argues for a broader concept of language, combining the more static and systematic aspects of Saussure’s *langue* with a more dynamic and imagistic side, made visible above all through iconic gestures. Recently, he has applied his multimodal theory of language to the classical question of language origins (McNeill 2012).

Kendon’s work is predominantly descriptive, but due to the fine detail in his analyses of “multimodal utterances”—involving spoken or signed language expressions along with gestures—his work has been at least as influential as that of McNeill. Originally working in ethology and then in the field of human interaction, Kendon adopts what he himself calls a “comparative semiotic” method. His studies of face-to-face interaction, alternate signed languages in Australian aborigines, and gestures of Neapolitaneans are considered classics in the field and are summarized in his monograph *Gesture: Visible Action as Utterance* (2004).

Cornelia Müller, head of the Berlin Gesture Center, is an inheritor of the different strands in gesture studies—from linguistics and semiotics to neuroscience and primatology. Her cognitive–semiotic orientation can be seen from an ongoing project, *Towards a Grammar of Gesture: Evolution, Brain, and Linguistic Structures*, which aims at “the development of fundamentals for a multimodal grammar and its neurological and evolutionary foundation within specific sub-areas” (<http://www.togog.org/en/>). Her work further concerns what is sometimes called “multimodal metaphor,” a topic on which she has collaborated with Alan Cienki (Cienki and Müller 2008).

47.2.3 *Semiotic Development*

Two of the classics in developmental psychology, Jean Piaget and Lev Vygotsky, each adopted a kind of cognitive–semiotic approach by investigating interrelations between sensorimotor skills, imitation, imagination, and communicative signs

Table 47.1 Levels of intersubjectivity in the first years of development, adapted from Bråten and Trevarthen (2007, p. 3)

Level	Capacities
Tertiary intersubjectivity From 2 years	Symbolic conversation with actual or virtual companions... leading to second-order abilities for mental simulation
Secondary intersubjectivity From 9 months	Objects of joint attention and emotional referencing are brought into play within trusting relations of companionship, sometimes leading to imitative learning
Primary intersubjectivity From birth	Direct sympathy with actual others' expressions of feelings in intimate reciprocal subject–subject contact

(Piaget 1962/1945); or between thought, “inner speech,” and the semiotic mediation of cognition and development by socioculturally transmitted sign systems (Vygotsky 1962/1934, 1978). In some (overpublicized) cases, their analyses contrasted, but given a broader perspective, they were more alike than different. This tradition of analyzing ontogenetic development underwent a significant renewal in the 1970s through the work, among others, of Trevarthen and Bruner (see below). Subsequently, however, the child’s mind was “modularized” and it became unfashionable to look for “domain general” capacities, stages, and transitions. Language and cognition were to be kept apart and studied separately.

Within the cognitive-semiotic approach to development body, affect, and socio-cultural environment all seen as indispensable for growing minds and languages. Colwyn Trevarthen’s long-term research and theorizing on infant and child intersubjectivity (Trevarthen 1979; Bråten and Trevarthen 2007) has been one of the key inspirations for this turn. In collaboration with Stein Bråten and others, Trevarthen has described the first years of development as characterized by increasingly complex layers or levels of intersubjective engagement with others in “trusting relations of companionship” (see Table 47.1). Inspired by Julia Kristeva, Lütke (2012) adds to these a zero layer of “primordial intersubjectivity” preceding birth; she conceptualizes the progression as one of decreasing corporeality and emotional markedness with increasing abstraction and referentiality. Stern (2000/1985) has likewise emphasized interpersonal relations and emotion, contributing to puncturing (if not tearing down) the wall between therapeutic and cognitive psychology—thereby making it possible to argue that emotional contact and sympathetic interaction serve as “the cradle of thought” (Hobson 2006).

One of the pioneers of cognitive science, Jerome Bruner, turned increasingly to the emerging cultural meanings of children—and away from the computational mechanisms of the mainstream. In *Acts of Meaning* (1990), he investigated the development of autobiographical memory (and self-concept) through the help of stories, marking the onset of a “narrative turn” in the field. In this vein, Nelson (1996) showed how the development of language is indispensable from cognitive development. From a related socio-cognitive perspective, Tomasello (1999, 2003) has rather focused on the development of joint attention, pointing, the understanding of communicative intent, and the first indisputable steps in the acquisition of language: from the production of the first words around 14 months, through the “vocabulary

spurt” around 18–20 months, to the first multi-word constructions. From the side of semiotics, child development has been insightfully addressed by Violi (2012), who has argued for an extended sense of embodiment, in which the body itself becomes enculturated, as well as “extended” through artifacts.

Such research has given us important insights on children’s semiotic development, and the main challenge for Cogsem would be to propose more integrative frameworks, in the manner of Piaget’s classical developmental theory (cf. Leninger 2012; Zlatev 2013).

47.2.4 *Biocultural Evolution*

There is an intimate relationship between the development of individuals and the evolution of species. One of the insights of the “new synthesis” of developmental and evolutionary biology (*evo-devo*) is that “all important changes in evolution are alternations in development” (Thompson 2007, p. 195). Modern concepts of evolution have moved beyond the (ex-) “modern synthesis” focused on gene selection, to consider that evolution can take place on other levels than genes such as individuals and groups, implying coevolutionary processes between (human) biology and culture (Richerson and Boyd 2005).

Several theoreticians with a background in neuropsychology and developmental psychology have addressed the perennial question of the “descent of man” within such an extended, biocultural perspective on evolution, often explicitly involving semiotic concepts. An important publication in the area is Merlin Donald’s (1991) *Origins of the Modern Mind: Three Stages in the Evolution of Human Culture*, presenting an integrated biocultural theory of human evolution. A key idea is that a domain-general capacity for skill learning, imitation, and gestural communication lies at the roots of uniquely human cognition and semiosis: “Mimetic skills or mimesis rests on the ability to produce conscious, self-initiated, representational acts that are intentional but not linguistic” (Donald 1991, p. 168). Language and speech evolved only later, partly through cultural evolution, without relying on innate adaptations. External representations gave way to writing in relatively recent history, making what Donald calls “theoretical culture” possible. Even from this brief summary, it can be seen that Donald’s approach is cognitive–semiotic: The goal is to understand not only the “origins of the modern mind” but how new semiotic layers have transformed that mind into the unique “hybrid” construction that it is (see also Donald 2001).

The role of artifacts, external representations and technology for “supersizing the mind” (Clark 2008), has been discussed for over a decade, and is on one level generally acknowledged. However, the more precise nature of this role has been the subject of controversies in philosophy (the “internalism vs. externalism” debate) and cognitive science (the status of the “extended mind”). It can thus be seen as a target area for future Cogsem research, such as that concerned with cultural niche construction (e.g., Sinha 2010).

Terrence Deacon's work in evolutionary anthropology relates explicitly to semiotic theory. His widely influential *The Symbolic Species: The Co-Evolution of Language and the Brain* (1997) draws on ideas from Peirce to propose that interpretative processes follow a progression of *iconism* (i.e., recognition), *indexicality* (space-time contiguity, as in the pairing of stimulus and response in classical conditioning), and most complexly—indeed, unique to our species—*symbols*. What Deacon exactly means by “symbols” has been a matter of much discussion, and he has recently provided a clarification: “To interpret the wax impression as a symbol of social position, one must also understand these social conventions, because nothing intrinsic to the form or its physical creation supplies this information. The symbolic reference is dependent on already knowing something beyond any features embodied in this sign vehicle” (Deacon 2012, p. 13). Thus, it is not arbitrariness per se that makes a sign into a symbol but culturally shared knowledge, which Deacon often describes as constituting a “web of symbolic relationships”—at least implicitly drawing on the structuralist tradition emanating from Saussure (Sonesson 2006). Deacon has also introduced the intriguing notion of *semiotic constraints* that are neither innate nor learned but a priori features of symbolic reference. Through such constraints, Deacon proposes to account for language universals such as predication and hierarchical structuring. A final key concept to his evolutionary theory of human origins is *relaxed selection*, which implies that rather than becoming more genetically determined, our brains have become less so: thus, more flexible and adaptive to the different cultural niches we live in.

Michael Tomasello must be mentioned as representative of this research area as well, with his important contributions directing experimental research in developmental and comparative psychology at the Max Planck Institute for Evolutionary Anthropology in Leipzig since the mid-1990s. His two major publications over this period, *The Cultural Origins of Human Cognition* (1999) and *Origins of Human Communication* (2008), have likewise proved influential. While Tomasello refrains from using terms such as “signs,” “semiosis,” and “consciousness,” his key concepts include symbols, joint attention, and shared intentionality, and it does not require much to see his theories in from a Cogsem perspective. Being heavily dependent on experimental results, Tomasello's ideas have changed over the years. Human cognition is no longer characterized by “understanding intentions” but rather by a combination of motivational factors for sharing (from food to attention and knowledge) and a cognitive capacity for maintaining *joint commitments*. In emphasizing the role of gestures in establishing a basis for language evolution, Tomasello's evolutionary theory is also quite similar to that of Donald.

There appears to be an emerging consensus that what is distinct to our species—both cognitively and semiotically—is a unique form of *sociality*. Still, few have attempted an explanation of the evolutionary conditions that would lead to this. Deacon (1997) has speculated that it could have been a change in reproductive strategy: from polygamy (typical among the great apes) to monogamy. This, however, is unsupported by the archeological evidence and at least controversial for the anthropological evidence: (serial) monogamy seems a much more recent, culturally transmitted, nonuniversal phenomenon. A more persuasive argument for

the evolution of a human-specific form of intersubjectivity is presented by Sarah Hrdy in *Mothers and Others: The Evolutionary Origins of Mutual Understanding* (2009). Reviewing the ethological, anthropological, and developmental psychology literatures, Hrdy builds up a case for the thesis that the crucial reproductive turn that occurred with *Homo erectus* nearly 2 million years ago was not to monogamy but to *alloparenting* or “cooperative breeding.” That would account both for the greater gregariousness of our species towards nonrelatives and the willingness of infants to bond and communicate with other than biological parents.

47.2.5 *The Embodied Mind*

In parallel with—and similar to—the rapprochement between the cognitive sciences on the one hand and “semiotics and the humanities” on the other, as outlined above, there has been a movement of integrating ideas and methods from cybernetics, theoretical biology, and phenomenology, at least since the publication of *The Embodied Mind: Cognitive Science and Human Experience* (Varela et al. 1991) by Francisco Varela, Evan Thompson, and Eleanor Rosch. According to the broad definition involving “integrating methods and theories” offered in the introductory passage, this tradition could even be seen as falling under Cogsem. Unfortunately—at least until recently—there has been little interaction between the embodied mind scholars and those more overtly involved in Cogsem. Perhaps this is due to the radically anti-representationalist stance in the early stages of the embodied mind movement, when the central concept was that of *enaction*: “a history of structural coupling that brings forth a world ... [t]hrough a network consisting of multiple levels of interconnected, sensorimotor subnetworks” (Varela et al. 1991, p. 206). Rejecting the excessive (unconscious) representationalism of standard cognitive science (i.e., cognitivism), the enactivists were suspicious of any concept that sounded similar to representation, such as that of *sign*. Their empirical focus was on the *direct experience* of perception and action and on resolving the “hard problem” of consciousness—not on sign-mediated meaning. More recently, however, with the addressing of topics such as mental imagery and enculturation (Thompson 2007) as well as gesture (Gallagher 2005), it has become obvious that the classical phenomenological distinction between *presentation* (in perception and action) and *representation* (in imagination or in external representations) needs to be respected and theoretically addressed. From the Cogsem side, phenomenologically oriented semioticians such as Sonesson (2011) have been making similar arguments, while focusing on the representational (e.g., pictorial) aspects of meaning. Given the mutually consistent, complementary, and anti-reductionist orientations of the Cogsem and embodied mind approaches, one should expect to see more interaction between them in the near future. Here, I only mention the names and work of a few prominent figures.

Varela played a key role in establishing the embodied mind paradigm. With his background in theoretical biology and in collaboration with Humberto Maturana, Varela coauthored some of the key texts of autopoiesis theory: “Our proposition is that living beings are characterized in that, literally, they are continually self-

producing. We indicate this process when we call the organization that defines them an *autopoietic organization*” (Maturana and Varela 1987, p. 43). For reasons that still need to be clarified, there was a rift between the two scholars around that time. Varela proceeded to elaborate the related notion of *enaction* (Varela et al. 1991) and, importantly, to link his biological theory with a deeper appreciation of phenomenology. In an oft-quoted paper, Varela (1996) formulated the research program of *neurophenomenology*, in which first-person data, obtained by experimental subjects trained to be aware of and reflect on their experiences—i.e., to “perform the phenomenological reduction”—was to be correlated with the third-person data of brain imaging. A number of insightful studies have used and elaborated on this framework (Lutz and Thompson 2003).

After Varela, Evan Thompson picked up the torch in formulating a new synthesis for *mind science*, culminating in his impressive *Mind in Life: Biology, Phenomenology and the Sciences of Mind* (Thompson 2007). The major theme of the book is “the deep continuity of life and mind,” expanding on the notion of autopoiesis as the minimal condition for both life and meaning and prefiguring the basic structures of consciousness, such as intentionality. Throughout the book, Thompson skillfully weaves together ideas and findings from “biology, phenomenology, and the sciences of mind,” addressing topics such as time consciousness, mental imagery, emotions, and intersubjectivity. On that last point—influenced by the work of the phenomenologist Dan Zahavi (2001, 2003), who has successfully argued that Husserl’s mature work (e.g., Husserl 1989/1952) included a rich analysis of “being with others” and the *lifeworld*—Thompson enriches the methodological pluralism of neurophenomenology, arguing the need for “second-person methods” in the study of consciousness and meaning. As spelled out below (cf. Sect. 47.4.2), such theoretical and methodological “triangulation” is characteristic of Cogsem research.

Meanwhile, Shaun Gallagher has elaborated upon a central theme of phenomenology, associated most often with Merleau-Ponty (1962/1945), by combining it with empirical and, above all, clinical research: that of the central role of the living body for all forms of experience and meaning. In *How the Body Shapes the Mind* (2005), Gallagher formulates experiential distinctions such as those between body schema and body image and between bodily agency and ownership, showing that by “front-loading” phenomenology in experimental research—rather than using it to interpret existing findings—one can achieve a productive interaction between first- and third-person methodologies. Gallagher has criticized the traditional “theory of mind” perspective on social cognition—both of the theory–theory and simulation–theory varieties—proposing instead an enactive *interaction theory* in which basic interpersonal understanding is the product of perception and action processes, while more elaborate understanding of others’ motives and goals is due to a shared familiarity with narratives—as also proposed by Daniel Hutto (2008). Together with Zahavi, Gallagher has published *The Phenomenological Mind: An Introduction to Philosophy of Mind and Cognitive Science* (Gallagher and Zahavi 2008), in which many of the basic ideas of phenomenology—along with empirical applications—are presented to a broader audience. This is something that Cogsem would clearly benefit from emulating.

47.3 Centers for Cogsem Research

47.3.1 “A Cognitive Approach to Semiosis”

Given that semiotics is usually defined as the study of *signs*, or more generally *meaning*, and furthermore given the polysemy (and current popularity) of the term “cognitive,” just about any semiotic theory—from those of Peirce and Saussure to Eco (1999/1997) and Hoffmeyer (1996)—could qualify as a “cognitive semiotics.” However, in the sense outlined in Sect. 47.1, Cogsem truly appeared only in the mid-1990s. A seldom acknowledged pioneer is Thomas Daddesio, whose major work bares the characteristic title *On Minds and Symbols: The Relevance of Cognitive Science for Semiotics* (Daddesio 1995). There the author sets out both a conceptual/methodological and an empirical goal for his project: namely, to “... demonstrate both the feasibility and utility of a cognitive approach to semiosis by setting forth a cognitive theory of symbols, which I will then apply to a particularly difficult area of inquiry, the development of symbolic communication in children” (Daddesio 1995, p. 2). In a highly informative historical overview, Daddesio shows how persistent attempts to “de-mentalize” notions such as sign, semiosis, and meaning in the twentieth century contributed to a separation between semiotics and cognitive science. While “computation” and “information processing” were the central concepts of the latter, there was not much to draw on for a cognitive approach to semiosis. Typically, Daddesio bases his cognitive–semiotic synthesis on ideas from cognitive semantics (cf. Sect. 47.2.1) and developmental psychology (cf. Sect. 47.2.2) related to notions such as schematization, (joint) attention, metaphor, and narrative. Daddesio deserves more credit than what his work has so far received for proposing this synthesis explicitly and, furthermore, for addressing children’s semiotic development insightfully.

47.3.2 Center for Semiotics (CfS)

Around the same time, Cogsem emerged at the Center for Semiotics (CfS) in Aarhus, Denmark (<http://www.hum.au.dk/semiotics/>). The center’s long-term research director, Per Aage Brandt, had in a number of publications combined ideas from the “dynamic semiotics” of René Thom with ideas from cognitive semantics (cf. Sect. 47.2.1), applying his cognitive–semiotic theory to the analysis of puzzling linguistic phenomena such as subjectivity, iconicity, metaphor, and fictive motion. A major publication is *Spaces, Domains and Meanings: Essays in Cognitive Semiotics* (Brandt 2004). Line Brandt (2013) extended some of these ideas, while also drawing on the French linguistic tradition of “enunciation.”

The work of another long-term member of CfS, Svend Østergaard, shows the growing influence of a cognitive—in the sense of psychological—approach to meaning. In *The Mathematics of Meaning* (1997), Østergaard discussed narration and temporality—as reflected in the classical literary works of Borges and Proust—seeking

parallels with fundamental properties of mathematics such as infinity. More recently, Østergaard has turned to ideas from developmental psychology and the study of face-to-face interaction.

Together with Kristian Tylén and Riccardo Fusaroli, a “dynamical account of linguistic meaning making” is being pursued, where the researchers combine ideas from dynamical systems theory and distributed cognition with corpus linguistic and experimental methodologies. Language is seen as a coordinative activity, where symbolic patterns are aligned and negotiated to facilitate and constrain social coordination (Tylén et al. 2010; Fusaroli and Tylén 2012). The work of these and other researchers at the center (e.g., Wallentin et al. 2011) explicitly combines ideas from linguistics, semiotics, experimental psychology, and neuroscience, thereby demonstrating that Cogsem is ongoing practice and not just a programmatic enterprise.

Still, not all Cogsem research needs to be experimental, as shown by the work of Peer Bundgaard in his articles on image schemas and force dynamics (*Routledge Companion to Semiotics*, 2009), on Husserl’s theory of language (Bundgaard 2010), and aesthetic cognition. Frederik Stjernfelt likewise pursues a purely qualitative tradition of conceptual analysis, though not in the narrowly linguistic sense, including interpretations of Peirce’s ideas on icons and above all diagrams, linking these to Husserl’s phenomenology (Stjernfelt 2007). At the same time, both Bundgaard and Stjernfelt apply their semiotic analyses to empirical phenomena of concern for Cogsem, such as the psychology of aesthetics, mental imagery, animal communication, and human gestures.

CfS was the first academic institution offering an M.A. program in Cogsem (both in name and content): “Cognitive Semiotics is first and foremost an interdisciplinary program which draws on neuroscience, philosophy, logic, linguistics, anthropology, cognitive science and literary theory” (<http://www.hum.au.dk/semiotics/>). The program has an impressive number of students and guest lecturers, and contributes to the reputation of CfS as a vanguard of the field. Still, an “emerging paradigm” can hardly be confined to one or two (geographically close) institutions.

47.3.3 *Centre for Cognition and Culture (CCC)*

At the beginning of the millennium, Per Aage Brandt relocated to Case Western Reserve University, where the Department of Cognitive Science was headed by Mark Turner, one of the authors of the influential cognitive–semantic theory of *conceptual blending/integration* (Fauconnier and Turner 2002). This can be seen as an extension of conceptual metaphor theory (cf. Sect. 47.2.1) in the direction of Cogsem. Todd Oakley, the current chair of the Cognitive Science Department, integrated cognitive linguistic concepts with a thorough investigation of the role of attention processes in his monograph: *From Attention to Meaning: Explorations in Semiotics, Linguistics, and Rhetoric* (Oakley 2008), analyzing a wide range of empirical phenomena.

Together, Oakley and Brandt established the Centre for Cognition and Culture (CCC), which “...studies art, design, music, language—both as grammar, as text,

as literature, and as speech and discourse—...and applies to this effect a comparative methodology that can be characterized as semiotic in a cognitive perspective: as a cognitive semiotics” (<http://www.case.edu/artsci/cogs/CenterforCognitionandCulture.html>). Perhaps the most notable fruit from their collaboration was the birth of the journal *Cognitive Semiotics*, which began to appear in 2007 (<http://www.cognitivesemiotics.com/>). A number of volumes were published, devoted to specific topics such as agency, consciousness, and cognitive poetics, featuring prominent authors from the cognitive sciences and the humanities. However, there were difficulties with the initial publisher resulting in irregular appearance, and low readership rates. As a result, negotiations were undertaken so that from 2014, the journal *Cognitive Semiotics* appears in new form and under a new publisher, and managed by a new editorial board, with Peer Bundgaard as editor in chief (<http://www.de-gruyter.com/view/j/cogsem>).

47.3.4 *Centre for Language, Cognition, and Mentality (LaCoMe)*

Another Danish interdisciplinary group—departing from linguistics while expanding to visual communication, gesture, and behavioral studies on consumer preferences—was established in 2007 at the Copenhagen Business School, with Per Durst-Andersen as research director. Søren Brier joined the group, coming from a background in ethology and cybernetics and bringing in an evolutionary and system-theoretic perspective. Brier’s book *Cybersemiotics: Why Information Is Not Enough* (Brier 2008) presents an ambitious attempt to achieve a synthesis of Peircean semiotics and second-order cybernetics, with the aspiration of unifying various domains of human knowing: from those of the physical and biological to the subjective/personal and the intersubjective/cultural.

Per Durst-Andersen recently crowned a long period of research in “language, cognition, and mentality” with a theoretical synthesis, *Linguistic Supertypes: A Cognitive-Semiotic Theory of Human Communication* (2011). At the center is a linguistic sign concept inspired by the trichotomies of Peirce and Bühler. Durst-Andersen proposes that the grammatical meanings of any particular language tend to orient towards one of the three semiotic poles: *reality*, *speaker*, and *hearer* and thus that all languages can be characterized as belonging to one of three “linguistic supertypes.” This controversial proposal is supported by a good deal of linguistic data, as well as references to research within cognitive psychology. Empirical studies—e.g., on predicted cognitive differences between speakers of the different language types along the lines of “linguistic relativity” research—are underway.

The third prominent member of the group Viktor Smith combines a “top-down” approach characterizing much linguistic theorizing with a “bottom-up” understanding of how linguistic communication functions in interaction with other semiotic resources such as pictures and sensory impressions (Smith et al. 2010). Smith’s point of departure is the lexicon in its capacity as a key element of human language, and a powerful tool for interacting with and shaping the world. His concern for bridging Cogsem matters to “the real world” is manifest, e.g., in the FairSpeak project,

focusing on the communicative potential and fairness of product packaging design. In this project, legal normative, experiential, and behavioral aspects of food labeling and marketing are being brought together, with the aim of improving producer–consumer communication (Smith et al. 2009, 2011).

47.3.5 *Centre for Cognitive Semiotics (CCS)*

The Centre for Cognitive Semiotics (CCS) at Lund University started as a 6-year program (2009–2014), bringing together researchers from semiotics, linguistics, cognitive science, and related disciplines on a common meta-theoretical platform of concepts, methods, and shared empirical data (<http://project.ht.lu.se/en/ccs/>). A staff of 10–15 senior and postdoctoral researchers and a larger number of affiliates have coordinated their research under five interrelated themes—evolution, ontogeny, history, typology, and experimental psychology—adopting a Cogsem approach to each specific topic. For example, the typology theme deals not only with linguistic typology but also with patterns of correlation in multiple “semiotic resources” such as speech, writing, gestures, pictures, music, and cultural artifacts.

The research director of CCS, Göran Sonesson, has written: “I have been involved with phenomenological cognitive semiotics from the very start of my career without knowing it—or rather, without using the term” (Sonesson 2009, p. 108). Sonesson’s writings since the late 1970s, in particular his comprehensive monograph *Pictorial Concepts* (Sonesson 1989), can indeed be seen as forerunners of Cogsem in several respects. In particular, he has consistently argued for the primacy of perceptual meaning over other kinds of meaning—including signs—and elaborated a definition of the sign concept on the basis of phenomenological notions such as experienced asymmetry and differentiation. At the same time, Sonesson has maintained that the study of meaning cannot be purely “eidetic” or “autonomous” but must also be based on psychological studies. For the purposes of his analyses of pictorial signs (his specialty), he often refers to Gestalt psychology as well as the ecological psychology of the Gibsonian tradition.

Still, Cogsem cannot be based only on a meta-analysis of the results of the cognitive sciences; for it to come into its own, it should go hand in hand with them to motivate specific empirical studies. In this sense, Cogsem research at Lund University got underway during the first years of the millennium, thanks to collaboration between Sonesson and researchers from linguistics such as the present author and cognitive scientists, such as Tomas Persson, a primatologist who applies Cogsem concepts to the study of visual perception and pictorial competence in nonhuman primates (Persson 2008).

My own road towards Cogsem has been guided by the conviction that language—its nature, evolution, and development—cannot be understood outside the context of a more general approach, taking both meaning and mind seriously. Influenced by the work of Merlin Donald (cf. Sect. 47.2.4), I have elaborated the concept of *bodily mimesis*, arguing for its central role in both evolution (Zlatev 2008) and

development (Zlatev 2013). I have also struggled with the proverbially “hard problem” of consciousness, in its relation to language. In agreement with Sonesson, I see phenomenology as providing tools to address the complex interrelations between bodily experience, sociality, and language (Zlatev 2010). Consistent with the work of Thompson (2007, see below), I have formulated a macroevolutionary hierarchy called *The Semiotic Hierarchy*: the autopoiesis of *living systems* is at the basis of all meaning in the universe, followed by the emergence of *conscious experience* (at least with mammals), which on its side is a precondition for the evolution of *sign use* (emerging with *Homo erectus*) and *speech* (in our own species). The model is fundamentally biocultural, with cultural processes playing a leading role in the evolution of language.

A number of empirical studies on *mimetic schemas* and children’s gestural development have been carried out at CCS (e.g., Zlatev and Andrén 2009). Andrén’s (2010) *Children’s Gestures between 18 and 30 Months* is an example of a successful Cogsem synthesis: a detailed description of five Swedish children’s gestural repertoires in the tradition of Kendon (cf. Sect. 47.2.2), with semiotic concepts serving to delineate gestures from action and “body language” on the one hand and from signed language on the other. Quantitative analyses show patterns in the developmental trajectories of pointing, iconic, and emblematic gestures with respect to speech and the use of physical objects. The study substantiates claims for an intimate interrelation between parallel development of speech and gesture.

For reasons of space (and fairness), the research of all CCS researchers cannot be summarized here. To give a flavor of the variety of subjects pursued, I mention the research by Arthur Holmer and Anastasia Karlsson on prosody and information structure, Sara Lenninger on the development of children’s understanding of pictures, Anna Cabak Rédei and Daniel Barrett on visual perception and emotion, Gunnar Sandin on the affordances and signs of city architecture, Joel Parthemore on enactive concepts, Michael Ranta on visual narratives, and Johan Blomberg on motion in language and experience. If successfully integrated—the major challenge to CCS—such research can serve as the basis for a viable Cogsem tradition at Lund University, supported by recently established M.A. and Ph.D. programs.

47.4 Characteristics of Cognitive Semiotics

On the basis of the overview in the previous two sections, it is possible to discern a number of characteristics of Cogsem research. These can serve to narrow down the broad definition of Cogsem as “integrating methods and theories developed in...cognitive science with methods and theories developed in semiotics and the humanities” presented in the introduction. At the same time, they are not meant to serve as a definition in terms of necessary and sufficient conditions. Rather, they should be seen as characterizing a prototype-based definition and not every Cogsem researcher should be seen as committed to all five features.

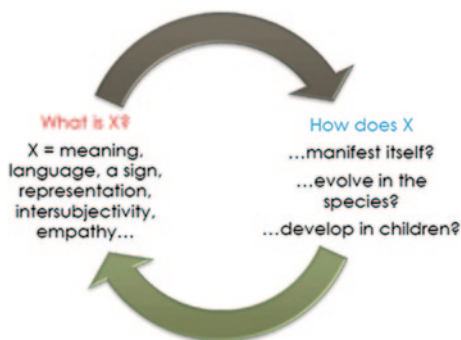
47.4.1 Conceptual–Empirical Loop

In a broad and trivial sense, all research involves both conceptual and empirical issues. However, semiotic theory is particularly concerned with explicating difficult higher-order concepts such as *meaning*, *sign use*, *representation*, *language*, and *intersubjectivity* along with their interrelations. It is anything but trivial to bring in empirical research that both contributes to such an explication and, at the same time, benefits from it in a way that produces new insights. It is such a feedback loop between conceptual issues and empirical investigation that is one of the central characteristics of Cogsem, as shown in Fig. 47.2.

All who have been involved in the study of phenomena such as imagination, gesture, metaphor, etc. will know that it is anything but trivial to combine conceptual and empirical analyses of their nature. There is a natural pull, one could say, to treat these as *meaningful phenomena* and explicate their features, constituent structures, types, etc. by engaging in systematic conceptual/eidetic analysis. On the other hand, psychologists tend to rush to “operationalize” the concepts, formulate hypotheses, perform experiments, and arrive at theoretical conclusions. But the outcome has often been that behind the same terms (e.g., “imagery,” “motion,” and “symbol”), very different, and often diffuse, concepts have been lurking, with resultant cross talk both across and within disciplines.

How is Cogsem to avoid this? The answer lies in formulating concrete research programs such as neurophenomenology that not only state programmatically that the “methods and theories” of the humanities and sciences need to be integrated but also actually go ahead and “do it.” Looking at the examples of Cogsem research summarized in Sects. 47.2 and 47.3, we can see that in nearly all cases, some version of the conceptual–empirical loop has been already employed: in the analysis of the emergence of signs in children (Daddesio 1995), of mental imagery (Thompson 2007), of children’s gestures (Andrén 2010), or of subjectivity in language (Brandt 2013).

Fig. 47.2 The conceptual–empirical loop



47.4.2 Methodological Triangulation

At the heart of my own conception of Cogsem is the kind of methodological “triangulation” shown in Table 47.2 (Zlatev 2009). Rather than argue on the proper methods for investigating the object of study, as has been done for over a century in linguistics (e.g., whether or not to use native-speaker intuitions), or define fields on the basis of their respective methods (philosophy as “first person,” ethnomethodology as “second person,” classical sociology and experimental psychology as “third person,” etc.), the goals of methodological triangulation are (a) to acknowledge the validity of all methods within their respective domain of inquiry, (b) to acknowledge the epistemological priority of first- and second-person methods in the study of meaning (since what one wishes causally to explain must first be understood as well as possible, in order to avoid the cross talk mentioned above), and (c) to integrate the three kinds of methods in the same project.

From this perspective, the problem with the “classical” humanities has been a resolute rejection of third-person methods in the study of cultural world as “objectivist” and distorting of the phenomena. While much can be said in favor of such a critique, the steady progress of the sciences, including the study of the so-called mind/brain, has given such an attitude a distinctly old-fashioned—if not reactionary—flavor. But on its side, (natural) science has tended to be myopic and dogmatic and has, unsurprisingly, hit a wall in extending the Galilean method to issues of value, meaning, norm, and consciousness. It has also performed first- and second-person methods *implicitly*, often without being aware of it: You will not find sections on the use of intuition and empathy in the “methods” section of experimental psychology textbooks.

The challenges to success in practicing such nonreductive unification of knowledge are many—not the least institutional. Cogsem runs the risk of being caught in the cross fire between the traditionalism of the humanities and the hubris of the sciences. But on the positive side, Cogsem could make a contribution to “mending the gap between science and the humanities”: the subtitle of the last book of the evolutionary scientist Stephen Jay Gould (2003).

Table 47.2 The central task of cognitive semiotics: integrating methods, derived from each of the three perspectives, in the study of particular semiotic phenomena, along with their interrelation

Perspective	Methods	Usually applied to
<i>First person</i> (“subjective”)	Conceptual analysis Phenomenological methods Systematic intuitions	Perception Mental imagery Norms (in language)
<i>Second person</i> (“intersubjective”)	Empathy Imaginative projection	Other persons and “higher” animals Social interaction
<i>Third person</i> (“objective”)	Detached observation Experimentation Brain imaging Computational modeling	Isolated behaviors (e.g., spatiotemporal utterances) Biochemical processes

47.4.3 *Influence of Phenomenology*

Another common aspect to most Cogsem research, including that summarized in the preceding two sections, is a greater or lesser degree of indebtedness to the philosophical school of phenomenology, as founded by Edmund Husserl at the beginning of the twentieth century. There are multiple schools and types of phenomenology, but the basic idea is to *depart from experience itself*, and to provide descriptions of the phenomena of the world, including ourselves and others, as true to experience as possible—rather than constructing metaphysical doctrines, following formal procedures, or postulating invisible-to-consciousness causal mechanisms that would somehow “produce” experience.

There is continuity between the epistemological challenges of Cogsem, and those dealt with by Husserl nearly a century ago, leading him to develop phenomenology as a possible resolution to what he called the “crisis of European sciences,” caught between the extremes of positivism and relativism. The emphasis on perspective in Table 47.2 was meant as a reminder that all knowledge is relative to a subject—or an “observer” as Maturana likes to phrase it, though his epistemology overestimates the roles of language. This does not entail any form of “monadic” subjectivism for at least three reasons. First, we do not live in separate bubbles made up of “representations,” but in a meaningful lifeworld, co-constituted through our perceptions and actions. This is obvious for cultural meanings, such as those of language, but it applies also to the most basic layers of perception (e.g., of color). Second, even the most subjective experience is communicable—on the type if not token level—“to sympathetic others” (Bråten and Trevarthen 2007). Third, accepting that the structures of experience as elucidated by phenomenology are “prefigured” in the principles of life itself—as argued by Thompson (2007) and others—opens the way towards a naturalization of phenomenology without the reductionism that usually goes with that term.

Apart from an affinity in its epistemological foundations, Cogsem has benefited from phenomenology with respect to specific topic areas: the earlier mentioned distinction between presentation and representation, analyses of imagination and “picture consciousness” (Stjernfelt 2007; Sonesson 1989, 2011), of the interrelations between the living body (*Körper*) and the lived body (*Leib*; Gallagher 2005), of intersubjectivity (Zlatev et al. 2008), etc. What would seem to be a natural next step is to take stock of the more dynamic “genetic” (individual) and “generative” (cultural) developments of phenomenology, including analyses of *time consciousness* (understood as the fundamentally temporal nature of all experience), *passive synthesis* (opening the door to analyses of the “unconscious”), *sedimentation* (i.e., of cultural knowledge), etc. That would be consistent with the otherwise strong emphasis on dynamics, prevalent enough to deserve to be listed as a characteristic.

47.4.4 *Meaning Dynamism*

At the risk of using a notion that has reached almost fetish status during the past decades (“everything changes, nothing is static”), one can make the generalization that

Cogsem studies meaning on all levels—from perception to language, along with the various forms of “external,” cultural representations (theater, music, pictures, film, etc.)—primarily as dynamic *processes* rather than static *products*. Though the latter can be a convenient descriptive shorthand (e.g., of the “lexicon” of a language, or the “repertoire” of gestures in a community), nearly all Cogsem researchers have made the point that viewing meaning in purely static, structural terms is insufficient for understanding the essentially relational, subject-relative, and (often) interpretive nature of semiosis. Unsurprisingly, various formulations have been used to capture the dynamic nature of meaning: *sense making* (Thompson 2007), *meaning construction* (Oakley 2004), *linguaging* (Maturana 1988), etc. It may also be reminded that the CfS scholars used the term “dynamic semiotics” prior to adopting “cognitive semiotics.” Thompson (2007) refers to the framework that he is developing as “embodied dynamism.”

There are at least six different timescales to the dynamic semiotic processes under study:

- a. *Microseconds* in the study of the emergence of the moment-to-moment experience of meaning(-fullness) as in vision or speech.
- b. *Seconds* in the study of the production and understanding of meaningful wholes such as scenes and (oral and gestural) utterances.
- c. *Minutes* in the development of a particular social interaction, or “enchrony” (Enfield 2011).
- d. *Days, months, and years* in the study of semiotic development in ontogenesis.
- e. *Decades and centuries* in the study of cultural-historic processes, as in language change and sociogenesis.
- f. *Millennia* in the study of biological evolution (i.e., phylogenesis).

The levels on which these processes apply are also various, from those of “subpersonal” processes in brains to conscious experience in individuals to co-constructions of meaning in dyads and groups to changes in whole populations and environments. These are fairly standard timescales and levels, not specific to Cogsem. Perhaps what could be seen as criterial for a Cogsem approach to any particular phenomenon (e.g., visual perception, gesture interpretation, or identity formation) is not to focus on a single timescale—and corresponding epistemological approach—but to consider several scales and levels in relation to one another, as discussed explicitly by Andrén (2010).

47.4.5 *Transdisciplinarity*

In the opening line of this chapter, Cogsem was preliminarily defined as an “interdisciplinary, or rather transdisciplinary, field” focusing on mind and meaning, with some family resemblance to cognitive science. Judging from the background of Cogsem researchers mentioned in this overview, we can see representatives of (1) *semiotics*, whether or not it should be seen as a single discipline; (2) *linguistics*, above all from cognitive semantics; (3) *psychology*: mostly developmental, but also cultural, cognitive, and comparative; (4) *anthropology*: biological and, hopefully,

cultural, despite its deeply ingrained resistance to “biologism”; (5) *enactive cognitive science*: including neuroscientific and dynamic modeling approaches; and (6) *philosophy*, above all, in the phenomenological tradition.

These are almost the same list of disciplines that combined forces to define cognitive science in the 1960s. But as stated in the introduction, the new synthesis of Cogsem is quite different. For one thing, the “components” of Cogsem are often viewed as antagonistic to those that participated in the synthesis of cognitive science: so one finds cognitive versus generative linguistics, epigenesis versus nativism, enactivism versus cognitivism, and phenomenology versus physicalism. At the same time, such oppositional thinking—and thus opposing Cogsem and Cogsci—is much too schematic. After all, we are all participants in ongoing processes of dynamic transformations of society, technology, and attitudes towards knowledge. While cognitive science may be currently more academically established than Cogsem in terms of associations, journals, academic departments, and educational programs, it has not evolved into a self-sufficient discipline and remains in essence an *interdisciplinary program* with various constellations crystallizing as “paradigms” for a limited period of time: Varela et al. (1991) portray its brief history as passing through the stages of cognitivism, connectionism, and enactivism. With some goodwill, Cogsem could even be seen as a fourth stage/generation of cognitive science.

More important for the self-definition of Cogsem, however, is whether it should involve a lower or higher degree of interdisciplinarity. A higher degree is often called *transdisciplinarity*, especially by those who see “interdisciplinarity” as a temporary coalition between members of different fields when something of considerable complexity is addressed (e.g., the brain as studied by neuroscience or evolution as studied by sociobiology) but without seriously affecting the participant disciplines or the broader field of knowledge. In contrast, transdisciplinarity “concerns that which is at once *between the disciplines, across the different disciplines, and beyond each individual discipline*. Its goal is the understanding of the present world, of which one of the imperatives is the overarching unity of knowledge” (*Transdisciplinarity, Wikipedia*). From such a perspective, Cogsem can be seen as a true transdisciplinary field since *meaning* does not constitute a specific empirical domain but rather cuts “between and across” disciplines.

What has so far lain “beyond” is a coherent approach that “mends the gap between science and the humanities,” in the words of Gould. As I wrote with some rhetorical flourish some years ago: “Our conception of *meaning* has become increasingly fragmented, along with much else in the increasing ‘postmodernization’ of our worldview. The trenches run deep between different kinds of meaning theories: mentalist, behaviorist, (neural) reductionist, (social) constructivist, functionalist, formalist, computationalist, deflationist... And they are so deep that a rational debate between the different camps seems impossible. The concept is treated not only differently but *incommensurably* within the different disciplines” (Zlatev 2003, p. 253). To the extent that Cogsem lives up to the challenge of providing a coherent worldview, uniting “biology, phenomenology, and the sciences of mind” (in the words of Thompson) and even offering a foundation for the systematic study of fields such as visual art and music, it would deserve the label “transdisciplinary field.”

Another feature often seen as crucial for transdisciplinary research is “the inclusion of stakeholders in defining research objectives and strategies in order to better incorporate the diffusion of learning produced by the research. Collaboration between stakeholders is deemed essential—not merely at an academic or disciplinary collaboration level, but through active collaboration with people affected by the research and community-based stakeholders” (*Transdisciplinarity*, *Wikipedia*). It is fair to say that, so far, Cogsem has not achieved this, though there have been encouraging first attempts: Smith’s work with producers, consumer rights advocates, and legal experts in the FairSpeak project; work in Aarhus on multiculturalism. Areas of crucial social significance, in which Cogsem—with its participatory approach to knowledge—should be able to involve stakeholders from areas such as atypical development (e.g., autism), sex and gender, animal rights, and religion: notably, all highly “sensitive” domains characterized by polarized views. An approach such as Cogsem, which professes to take first-person experiences seriously, would be beneficial in these mine-laden areas.

47.5 Conclusions

The fact that similar ideas—and even the term “cognitive semiotics” itself—have emerged in different places over the past decades is hardly a coincidence. At some risk of exaggeration, Cogsem can be seen as called for by historical needs, such as those suggested in this article: the need to unify or at least to “defragment” our worldviews, the need to come to terms with increasingly higher levels of dynamism and complexity, the need to understand better—and thus deal with—the dialectical relationship between individual freedom (autonomy) and collective dependence (sociality), etc.

In other words, if cognitive semiotics did not exist, we would need to invent it. Its potential as a transdisciplinary field integrating our understanding of life, mind, language, and society is considerable. Furthermore, it can help integrate the participating disciplines internally—above all psychology and linguistics, divided as they are in conflicting subdisciplines that treat their objects of study (i.e., mind and language) in, respectively, biological, mental, and sociocultural terms. To emphasize again: Cogsem is not a branch, school, or theory of semiotics, the latter understood as a self-contained discipline. It can make equal use of ideas from Peirce, Saussure, Jakobson, Greimas, von Uexküll—or from anywhere else—to the extent that those ideas are productive for empirical research, leading to *new insights* into the nature (and culture) of human beings, as well as other meaning-seeking and meaning-making beings.

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Jordan Zlatev is a professor of linguistics and phonetics at the Centre for Languages and Literature, Lund University. He is interested in the relation between language, thought/consciousness, and other semiotic resources or systems like gestures and pictures, in particular in an evolutionary and developmental perspective. He has served as the president for Scandinavian Association for Language and Cognition (SALC) and is currently president of International Association for Cognitive Semiotics (IACS) and on the board of the International Cognitive Linguistics Association (ICLA).

Chapter 48

Embodied Semiosis: Autistic ‘Stimming’ as Sensory Praxis

Jason Nolan and Melanie McBride

48.1 Introduction

For individuals diagnosed with autistic spectrum disorders (ASD), the senses and sensory perception and integration are both the authority and the warrant by which disablement and psychiatric intervention are rationalized as the purview of medical and institutional power/knowledge (Foucault 1980, 2009). This is, by and large, a semiotic process that discursively constructs the autistic in a deficit-driven language of disease rather than difference. Within the medicalized semiotic domain of autism as disease, autistic sensory experience is a sensory integration ‘disorder’ (American Psychiatric Association 2013) that also, simultaneously, reinforces and produces a normative sensory ideal. As Connolly (2008) notes, this semiosis of medicalized discursive practices reduces the disabled person to an essentialized biological body. Recognizing the discursive and semiotic nature of disablement, autistic self-advocates (also self-identified as ‘neurodiverse’) coined the term ‘neurotypical’ to define non-autistic subjectivity, sensory orientations and social norms on their own terms (Broderick and Ne’eman 2008). As with deaf culture, the neurodiversity movement defines itself as a distinct social and cultural identity (Molloy and Vasil 2002) rather than impairment.

From a Marxist standpoint, the production of an essentialist (and disabled) body is a form of ‘reification’ that serves to abstract and ‘mystify’ (Lukács 1971, p. 840) sensory experience and perception according to externally defined, normative ‘imaginary’ (or, ideal). Against this normative imaginary/ideal, the ‘lived body’ (Kasnitz and Shuttleworth 2001) of persons with disabilities such as autism becomes a semiotic site of struggle between the deficit-driven and pathologizing

J. Nolan (✉)
Ryerson University, Toronto, ON, Canada
e-mail: jnolan@ryerson.ca

M. McBride
York University, Toronto, ON, Canada
e-mail: mcbride.melanie@gmail.com

rhetorics of disease-driven medical models and the counter-narratives of the neurodiverse (Broderick and Ne’eman 2008). As Fredric Jameson (1981) suggests, ‘the very activity of sense perception has nowhere to go in a world in which science deals with ideal quantities’ (Jameson, p. 229) shaped by a historicity of competing institutional and commercial interests.

Beginning with the developmental reification of sensory experience according to behaviourist ‘ages and stages’, this chapter traces a historicity of semiotic disablement. Through the embodied sensory phenomenology (Connolly 2008) of neurodiversity, we reconstruct autism as an embodied semiosis that locates the body as ‘the nexus of lived experience and culture, as a portal, a site, an experience’ (Connolly 2008, p. 242) from which to listen to and engage the unique multimodal and meta-communicative utterances of neurodiversity. Finally, we argue that the physical and sensory behaviour of autistic self-stimulation (i.e. ‘stimming’) is an expression of embodied autistic semiosis that communicates sensory significations otherwise pathologized within neurotypical semiotic domains.

48.2 Imagining Autism

Autism is characterized as a sensory disorder with, according to the medical model of the American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders: DSM-5, mild to severe deficits in social-emotional reciprocity, nonverbal communication, difficulty maintaining social relationships and stereotyped/repetitive speech, movements, ritualized patterns and hyper- or hypo-sensitivity to sensory experiences (American Psychiatric Association 2013). Social and physical manifestations of autism, such as repetitive hand flapping, rocking or clapping, referred to as self-stimulation (or ‘stimming’), are ‘treated’ with applied behavioural analysis (ABA) and conditioning (Attwood 1995; Cooper et al. 2007; Dillenburger and Keenan 2009). ‘Stimming’, in particular, is among the most recognizable manifestations of autism because it is observably different from the behavioural norms of neurotypicals and, we argue, constitutes an utterance that poses a challenge to those norms.

Institutional spaces such as classrooms have played a significant role in reinforcing and authorizing medicalized assessments and interventions for ASD individuals. Educational practitioners (from early childhood to K-12) are still largely trained according to behaviourist psychology models. Within this context, assessments of student learning, attention and engagement are left to the professional judgement of teachers who approach neurodiversity and disability from a behaviourist standpoint. Even so-called progressive classroom management is characterized by an ableist discourse of engagement, attention and participation that is socially and cognitively overwhelming for the autistic. Words like ‘disengaged’, ‘distracted’ and ‘disruptive’ are used to describe individuals whose bodies or sensory responses disrupt the outdated and alienating performativity of engagement defined by behaviourist norms and values. For many autistics and their parents, the amount of behavioural

modification required to function ‘successfully’ in a classroom can preclude any possibility of learning anything beyond the implicit and disabling lesson that their ways of being and knowing are inferior to those of neurotypicals.

While many autistic self-advocates agree that autistics benefit from accommodation in the context of a neurotypical society (Molloy and Vasil 2002), they reject pathologizing interventions that attempt to ‘cure’ or ‘normalize’ autistics according to a neurotypical sensory and social imaginary. A review of research into autism therapies by Warren et al. (2011) for the US Department of Health and Human Services questions the validity and efficacy of ABA in real-world conditions and concludes that the vast majority of research into autism therapies, less than 10% of the 159 studies considered, were of good quality. Most of the research focuses on supporting prosocial behaviours and reducing repetitive activities such as stimming. However, autistic self-advocates within the neurodiversity movement reposition autism as a social and, even, cultural ‘difference’ rather than a disability. As Connolly and Craig (2002) argue, building on Merleau-Ponty’s phenomenology of embodiment, autism may be better understood as a ‘stressed embodiment’ in which the autistic subject ‘transgress(es) the logics and inscriptions of a culture based in ableism’ (p. 456). Given the specifically sensory dimensions of autism, many autistic self-advocates argue that autism is a uniquely embodied and sensory language (Baggs 2007; ‘Kulamalyne’ 2012; Yergeau 2010; Broderick and Ne’eman 2008) that defies neurotypical logic and comprehension.

48.3 Sensory Periodization

Early childhood is a significant location in the historicity of normative sensory imaginaries. For a relatively brief period, children are permitted voluntary sensory exploration that is otherwise off limits to older children and adults. Piaget’s genetic epistemology, which defines 0–2 as the sensory motor stage where we acquire physical knowledge through sensory experience as a primary way of learning, describes the assumption that there are stages that we move through as we develop (Sternberg 2005; Piaget 1962). The sensory motor stage is socially and culturally valued as an important stage of human development when children autonomously gather multi-modal sensory and tactile knowledge of the world around them (Kamii 1991).

These ‘ages and stages’ of developmental periodization have come to define how and when children ought to move on, with specific purpose through hierarchical developmental ‘milestones’ (National Association for the Education of Young Children 2009). Within this hierarchy of sensory learning, children are expected to ‘grow out of’ more carnal, sensory and embodied ways of knowing to embrace, instead, the more rational and ‘adult’ world of signs and symbols constituted not from their own sensory experience or self-selected objects of inquiry but from received, valued and codified social and cultural knowledge. Such developmental rationalism implicitly rewards and values the individual who charts this path faster or better as more ‘mature’, ‘gifted’ or ‘advanced’ in a ‘rational’ and socially acceptable regulation and control of the body and its sensory needs.

As an individual moves from physical experience to social knowledge, interaction with others is encouraged as the primary way of knowing (Callaghan 2005; Suizzo 2000). At the level of experience, we can perceive the taste of an orange, but we cannot know the semiotic descriptors of sweet, tangy or even orange, unless someone shares these terms and links them to that which is signified. What we sense and how we interpret and communicate that sensory information is fundamentally guided and influenced by the social and cultural context in which we experience it to the point that we unconsciously assume verisimilitude. But in the case of the autistic whose utterances, such as stimming, emerge from within, the ‘development’ of shared and social knowledge serves to silence rather than enhance their own language and phenomenology, which is substituted with disembodied and non-intuitive notions of feeling, sensing, communicating and relating that are characteristic of the socially and culturally derived sensory integration of the neurotypical. According to Rogers and Swadener (2001), ‘current theories of cognitive development do not address the cognitive complexity of living a relational life nor do these theories recognize the everyday nature and requirements of symbolic exchanges in human discourse’ (p. 5). This is particularly true for the autistic, whose sensory development is characterized as being stuck or delayed (Broderick and Ne’eman 2008) at the sensory motor stage. Those who do not ‘move on’—or decide to continue engaging in sensory explorations that are not deemed socially acceptable (i.e. stimming)—are psychopathologized and marginalized; those who, according to this narrative, have moved on (Mestrovic and Cook 1988).

It is easy to see how social knowledge is a consensus building apparatus that allows us to situate our sensory experiences with physical knowledge within larger social and linguistic contexts as we develop cognitively (Callaghan 2005). Social knowledge; the social contexts in which sensory experiences are made available to us, and semiotic systems that serve as a heuristic model for interpreting these experiences, serve to not only enculturate us into the normative procedures of the society in which we will live, but also serve as a heuristic filter that over time causes us to become desensitized to certain forms of stimuli. And language is the medium of this enculturation. Language acquisition theories largely assume that when we are born, we are capable of learning any language, yet as we learn language, most of us gradually lose the ability to learn other languages, or even respond to other sounds as language (MacWhinney 2005). As individuals are inculcated into their social and cultural contexts, more of their sensory experience is culturally determined rather than experienced directly. These symbolic expressions of experience can also come to over-represent, over-determine (Rogers and Swadener 2001) and abstract more empirical and embodied forms of listening and communicating, particularly those of dis/abled or neurodiverse bodies, into symbolic, rather than grounded, qualities.

As we grow up, knowledge about the world is less and less located in any empirical physical, sensory or cognitive experience. What we learn about sensory information as we grow shifts from direct physical contact with sensory information that is interpreted by successive waves of external influence from family, social group, learning institutions and dominant cultural or corporate influences. These

influences compete with direct sensory experience for control over what sensory information is engaged with, how it is interpreted and how it is valued. Ultimately, what has not been pathologized or reified is alienated and lost, filtered out to the point that it effectively disappears. In the case of the autistic, this theft of embodied sensory experience represents a denial of their very being.

Ihde and Selinger (2004) point out, in their exploration of Merleau-Ponty’s ‘phenomenological commitments’, that in many cases of emergent understanding of phenomena, there can be ‘a radical inversion between the traditional priority of theory over practice...that practical coping tends to precede theoretical reflection’ (p. 363). When trying to understand normalizing or neurotypical conceptualizations of the body and senses, it is important to regard the philosophy of the body and the senses as not only re-enforcing monadic, euro-centric, bourgeois notions, but also further reducing them to external models as tools for knowledge production about the external world. Brey (2000) attempts to clarify Merleau-Ponty’s theory of ‘embodiment relations’ as being based on the assumption that the body experiences the external environment differently than the interior experience of that environment, and that one’s body is not ‘normally’ perceived spatially. Brey highlights a fruitful disjuncture between lived and embodied experience of the senses that disrupts cultural and social semiotic inscription. When applied to the autistic semiosis, sensory information that conventionally exceeds or radically diverges from neurotypical expectations can be seen along a continuum of differences that impact each of us differently:

However, in everyday actions, one does not normally experience the body as a physical, spatial structure in the external world. Instead, one experiences the body as a not expressly spatial means by which the spatial world is engaged. Moreover, although one may be aware of the relations between different parts of one’s body, these relations are not normally understood as spatial relations. (Brey 2000, p. 5).

Beyond the mystifications and regulations of a normative sensory imaginary, the body is always full of possibility as an instrument with which to engage and interact with the world rather than being seen as an object in space, of situation rather than position (Brey 2000). If one’s body is known, immediately and without question, through the ‘body image’, as Merleau-Ponty (2012) suggests, as a coherent and unified ‘taken-for-granted’ assumption, there is an obvious invitation to critically confront the assumption, especially when the assumption is based on commonplace examples and neurotypical enactment of the senses otherwise frozen and periodized in time. That these perceptual functions privilege the visual, aural and tactile is to be expected, based on the purposive and utilitarian framing of the senses.

Despite a reliance on the most common and shared sensory experiences that are as culturally situated as any of Freud’s theorizing, sense and sensory interaction is not a universal constant across all conditions or immutable across contexts. Neuroscience research has already shown that individuals experience sensory information differently. Sensitivity to stimulus changes from person to person and also in the same individual based on a variety of possible factors. However, Merleau-Ponty’s advocacy for an awareness of the primary place of perception in coming to know

and engaging with the world is essential in conceptualizing a more neurodiverse semiosis of embodiment. In response, Rogers and Swadener (2001) suggest that applied semiotics offers a means to create more inclusive stories of human development formalized into theory.

48.4 Stimming Semiosis: In Our Own Language

For the autistic, stimming can be a coping mechanism that is most often met with attempts to modify or eliminate it through operant conditioning in the form of ABA (Dillenburger and Keenan 2009). There is, in fact, a growing body of ethnographic, cultural and anecdotal narratives from autistic self-advocates that suggests that the embodied semiosis of stimming is as much a sensory exploration as it is a balancing homeostatic response to externalities (Nijhof et al. 1998). Autistic self-advocate and professor of English and rhetoric Melanie Yergeau's (2012) video 'I Stim, Therefore I am' offers a powerful redefinition of stimming as an embodied rhetorical, aesthetic and phenomenological response. In the video, Yergeau combines still and moving images of herself as child and adult engaged in stimming. In one take, she is shown rocking back and forth in the floor of an office with a voice-over narration in which she describes her body as 'stiff and stimmy', her movement as 'elegance' and her 'rocking' body as a valued difference rather than deficit:

Oddness and rigidity are grace [...] stiff and stimmy is grace [...] these are all autistic/these are all rhetoric/these are all fluid/Moving/Grace. I am fascinated by my five year old body/ it is loud and it doesn't give a fuck. (Yergeau 2012)

Reframed on Yergeau's own terms, stimming is illuminated as a political, aesthetic and metacommunicative act of embodied semiosis. When we look beyond the medical model of disability, autism's semiosis is at home within more inclusive and counter-hegemonic models of cultural and social diversity. For an autistic, almost anything can provide a 'stim'. It can be elusive and imperceptible to non-autistics, especially in case of autistic individuals diagnosed with Asperger's syndrome. Yergeau's rhetorics of stimming are not unlike those of autism self-advocate Amanda Baggs, whose YouTube video 'In My Language' (2007) introduces viewers to Baggs' visual, sensory and auditory ways of seeing, sensing and speaking through sounds and movement. In the video, Baggs rocks, hand-flaps, twirls and stims on varied objects such as beads while singing in sounds and tones rather than words. Baggs' utterances constitute not only an expression of her identity and lived experience as an autistic but also an expression of communication she suggests is unknown and misunderstood by non-autistics:

Failure to learn your language is seen as a deficit. But failure to learn my language is seen as so natural that people like me are officially described as mysterious and puzzling rather than anybody admitting that it is themselves who are confused. Not autistic people, or other cognitively disabled people. (Baggs 2007)

Yergeau’s and Baggs’ videos illuminate the largely nonverbal complex semiosis that constitute sensory utterances of autism in which ‘the body and its sensory apparatus function as both index and sign systems that hold these together’ (Connolly 2008, p. 242). In the context of traditional (i.e. neurotypical) semiotics, these texts offer an important expression of visual and auditory utterance beyond the traditional oral and written scholarship that favours, as Yergeau (2010) argues, neurotypical discourse and embodiment.

Reframe stimming within the semiotic domain of play, the stim becomes an expression of focused engagement with an intrinsically attractive or motivating sensory event or as ‘unstructured’ and open-ended exploration. Replace the word ‘play’ with ‘stim’ in Huizinga’s forward to his seminal work *Homo Ludens* (1955) and otherwise unknown correspondences between neurotypical and neurodiverse epistemologies emerge:

For many years the conviction has grown upon me that civilization arises and unfolds in and as *stim*...because it was not my object to define the place of *stim* among all the other manifestations of culture, but rather to ascertain how far culture itself bares the character of *stim*...to integrate the concept of *stim* into that of culture. Consequently, *stim* is to be understood here not as a biological phenomenon but as a cultural phenomenon. It is approached historically, not scientifically. (Huizinga 1955; interpolations italicized)

If ‘stimming’ was an acceptable and valued aspect of social and cultural behaviour, how might it be incorporated into design or social practices? Might the expressive and embodied behaviour of stimming benefit non-autistics, who are also similarly conditioned to resist such physical utterance? This semiotic praxis also involves disrupting narratives of autism as deficit or disease and regarding it, instead, as an opportunity to realize more inclusive visions of sociality imagined by the neurodiverse.

If we are to liberate sensory experience from a historicity of normative sensory imaginaries, we must first reposition it outside the ‘grand narrative’ of developmental psychology. To achieve this, autistic self-advocates argue that ‘counter-narratives are required to dominance discourse’s positioning of autism within solely medical and disease-oriented language and practices’ (Broderick and Ne’eman 2008, p. 469). As a semiotic phenomenology of embodied metacommunication, the movement from disablement to empowerment may also require what Foucault referred to as ‘a wise madness’ on the part of the neurotypical who embraces neurodiversity:

If madness comes to sanction the efforts of reason, it is because madness was already part of those efforts: the liveliness of images, the violence of passion, the great retreating of the spirit into itself are all part of madness, but are also the most powerful, and therefore the most dangerous, tools that reason can use. (Foucault 2009, p. 34)

From a semiotic standpoint, if the ‘language’ of autism were already ‘part of these efforts’, it might serve as a ‘revolutionary rather than evolutionary gaze’ (Fleer 2006, p. 132) through which we could regard these other ways of thinking, sensing and communicating beyond the sensory imaginary of the neurotypical. This departure is as much a project of philosophy as it is one of advocacy, for it requires an inversion of received thought about what we believe is rational or irrational. In his controversial writings on schizophrenia, *The Politics of Experience and the Bird of Paradise*, New Left psychiatrist R. D. Laing (1967) suggested that normative ways

of regarding madness and interpreting another's behaviour are more phenomenological than pathological in nature:

I see you, and you see me. I experience you, and you experience me. I see your behaviour. You see my behaviour. But I do not and never have and never will see your experience of me. Just as you cannot 'see' my experience of you. My experience of you is not 'inside' me. It is simply you, as I experience you. And I do not experience you as inside me. Similarly, I take it that you do not experience me as inside you. (p. 15)

In many ways, Laing's observation describes the existential dilemma of sensory experience and play as a form of communication. Laing's existential 'politics' of experience is at the heart of how many of us conceive of impairment simply because we cannot perceive or know another's *interior* experience of that embodied state. As Merrell and Anderson (2001) suggest, the semiosis of disablement 'precipitates vigorous waves of semiotic processes in the reader/consumer, touched by those experiences and narratives and ideas' (p. 268) that speaks to a new literacy of neurodiverse expression and epistemologies. This is all too familiar to autistic self-advocates who invoke 'alien' metaphors (Broderick and Ne'eman 2008) to describe the foreignness of neurotypical communication in relation to neurodiverse ways of seeing and sensing. Connolly (2008) suggests:

our strangeness to each other need not be the end of a shared world. We have to move to a place of learning from each other's differences (and embodied experiences) rather than creating hierarchies of legitimacy which exclude (or reprogram) those who do not fit within the narrow parameters of what is considered to be the 'norm.' (p. 245)

For a new discourse to emerge, we must be more self-reflexive about the nature of the semiotics to configure and periodize a sensory imaginary to engage the nullified and revolutionary experience of feeling, sensing and understanding beyond the neurotypical.

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Jason Nolan is autistic. He is director of the Experiential Design and Gaming Environment (EDGE) laboratory, <http://edgelab.ryerson.ca>, and a professor in early childhood studies at Ryerson University. He is also a faculty member in the joint Ryerson/York graduate programme in Communication and Culture. Jason graduated with a Ph.D. in critical pedagogy from the Ontario Institute for Studies in education in 2001, with a dissertation on virtual learning environments in education. His research focuses on adaptive design for children with disabilities, gaming/play, privacy/autonomy, sensory play, informal learning environments, virtual worlds and the voices of 'digital natives'. His work has appeared in journals such as *Canadian Children*, *New Media & Society*, *Surveillance and Society* and *Jeunesse: Young People, Texts, Cultures*. He is co-editor of *The International Handbook of Virtual Learning Environments* (2006).

Melanie McBride is a doctoral student in York University's joint programme in Communication and Culture, where she is investigating the role of multimodal technologies and technology-enhanced environments in supporting diverse sensory needs and preferences, such as the autistic spectrum, that exceed or challenge the normative 'sensory order' (Hayek 1952). Deemed one of the 'lower' senses, her work focuses on olfaction as an under-examined modality of digital communication and info-culture. Melanie's work with the laboratory has contributed to the development, conceptualization and design of multisensory environments and tools for inclusive learning and well-being. Visit her at: melaniemcbride.net and her multisensorymel blog.

Chapter 49

Heterarchical Semiosis: From Signal Transduction to Narrative Intelligibility

Luis Emilio Bruni

49.1 Introduction

The ideas of biosemiosis and cognitive semiosis entail the concomitant existence of many layers of embedded processes of communication within and between living organisms. In this chapter, I delineate, with examples, the continuous nature and the embeddedness of these processes in an attempt to bridge biosemiotics and cognitive semiotics. Therefore, I address some of the necessary characteristics or features, which are common to the embedded levels of semiosis from cellular to full-blown cognitive systems.

Implicit in this discussion is the much debated idea of semiotic threshold(s), or, more precisely, “semiotic threshold zones” (Kull 2009) along the continuum of the semiotic processes and the structures that support them (i.e., the embodiment)—which conform what we usually call “systems” throughout the biological-cognitive hierarchy. As we will see, this idea of thresholds is intrinsically linked to the idea of hierarchical levels of complexity.

However, in the current conversation between bio- and cognitive semiotics, there is agreement neither about where to place the different semiotic thresholds in the biological-cognitive hierarchy of nature nor on how to define such a hierarchy. For biosemioticians, the threshold is obviously lower than for cognitive and cultural semioticians. For biosemiotics, semiosis is a defining property of all life manifestations (Sebeok 1985/1976), and it is customary to recognize the cell as the most elementary integration unit for semiosis. Whereas not all cognitive and cultural semioticians reject the placement of such lower threshold at the merely biological level, some still question the very pertinence of the biosemiotic project.

Biosemiotics as a field has been under development in the past four decades, even though it is based on a long history that counts with early pioneers and precur-

L. E. Bruni (✉)

Department of Architecture, Design and Media Technology, Aalborg University—Copenhagen,
A.C. Meyers Vænge 15, 2450 Copenhagen, Denmark
e-mail: leb@create.aau.dk

sors such as Charles Sanders Peirce, Jakob von Uexküll, Gregory Bateson, Thomas Sebeok, Giorgio Prodi, Marcel Florkin, Friedrich Rothschild, Thure von Uexküll, among others (Favareau 2009). As a disciplinary field, it now counts with a rich body of literature and academic networks, which increasingly attract biologists, cognitive scientists, philosophers, and semioticians alike.

On the other hand, cognitive semiotics, as a field, can be said to be in a more incipient stage than biosemiotics, but only if the two fields are to be considered as completely separate, instead of intrinsically related. In this sense, Donald Favareau's *Evolutionary History of Biosemiotics* (Favareau 2007, 2008, 2009) could very well have been called "Evolutionary History of Bio- and Cognitive Semiotics" given that it eloquently (and very well philosophically informed) unfolds the history of the rise and fall of the negligence of "information," "sign relations," and "mind phenomena" in the study of the living world in Western tradition.

However, a quick survey of the existing literature explicitly dealing with cognitive semiotics in the past 15 years reveals that this emerging field was born from the classical semiotic levels of analysis concerned with human cultural semiotic processes—what, after the advent of biosemiotics, has been sometimes referred to as "anthroposemiotics," a term that some cognitive semioticians seem to somehow consider to be a straw man or to have a disparaging connotation (Sonesson 2009; Zlatev 2009). The innovation in this program consists in explicitly linking semiotics to the now ubiquitous "cognitive turn": mingling semiotic methods and problems with cognitive science, but so far almost exclusively at the human symbolic level, dealing with issues of signification in aesthetics, religion, linguistics, consciousness, literary studies, arts, anthropology, etc. As stated in the editorial preface of the first issue of the young journal *Cognitive Semiotics* (Vol 1, p. 5, Waller 2007):

The mental activities of thinking and communicating are importantly interrelated in our species. Human societies and cultures, and civilization at large, are the results of cooperating and conflicting minds, connected through cognitive-semiotic functions and processes. To gain scientific knowledge about these often still unexplored phenomena, found increasingly important by the scientific community, the journal is devoted to high quality research, integrating methods and theories developed in the disciplines of cognitive science with methods and theories developed in semiotics and the humanities, with the ultimate aim of providing new insights into the realm of human meaning production and the modalities of its embodiment and disembodiment.

In this context, very few studies have been dedicated to cognitive ethological issues seen through the lens of (cognitive) semiotics, which would be a direct link to biosemiotics (see, e.g., Waller 2007; Zlatev 2008). Part of the emerging community of cognitive semiotics have expressed or have reservations about what biosemioticians see as intrinsically related and continuous levels of analysis between the biological and the cognitive levels. The reservations often imply skepticism about the plausibility of referring to communication processes below the cognitive level as semiosis—something that is widely accepted in biosemiotics. However, it is clear that biosemioticians would not claim that semiosis at, for example, cellular levels imply cognition. However, one thing is accepting that there is a biological threshold that determines what cognition is and what is not, and another issue is not recognizing as important the fact that cognitive semiotic processes necessarily depend on

embedded *biosemiotic* processes. The curiosity of this resistance lies in the fact that the cognitive disciplines, which cognitive semiotics intends to relate to, are tending more and more to be biologized, to the limits of becoming biologically reductionist, as for example in some major trends in cognitive neuroscience. It is a bit of a paradox that while cognitive neuroscience has a tendency to such biological reduction (i.e., neural and genetic correlates), cognitive semiotics seems to be entrenched in what Favareau (2009) calls the “Cartesian conflation of cognition and symbolic cognition.”

Biosemioticians are not claiming that bacteria are partaking of cognition, but most of them would agree that there are biological semiotic processes embedded in higher cognitive processes. Many would also agree with some cognitive semioticians, and cognitive ethologists as well, in that the threshold for cognition proper starts either with organisms with a central nervous system or with organisms that additionally have developed a brain. The disagreements for this threshold would be the same as in any discussion that tries to establish what is to be considered cognition and what is not. Could the presence of sense organs without any brain generate cognition? In any case, it could be said that the criteria for cognition or not-cognition coincides with a threshold that demarks a particular level of sophistication of *umwelts* (sensu von Uexküll). However, the existence of more primitive *umwelts* under this threshold cannot be denied a priori. Additionally, there are still a lot of problems when trying to “draw thresholds” in the biological hierarchy as for example to differentiate when there is mere sensing and when there is perception proper. There is a natural resistance to ascribe perception capability or cognition to lower animals and organisms, and there are different threshold levels for “perception proper” or “cognition proper” being ascribed in comparative studies, and distinctions being made between “low” and “high” cognition (Bruni 2008a).

In this chapter, I do not focus on the history of biosemiotics and cognitive semiotics and neither is my intention to present a review of the development of the two emerging disciplines. This has already been done brilliantly by others in different articles and anthologies (Sebeok 1998, 2001; Kull 1999a, 1999b, 1999c, 2005; Favareau 2009; Zlatev 2011). Probably the most complete and exhaustive being Donald Favareau’s *Essential Readings in Biosemiotics*, a comprehensive volume starting with the already mentioned introductory chapter titled “Evolutionary History of Biosemiotics” where Favareau skillfully traces the roots of biosemiotics throughout the many cultural crossroads from antiquity, through the middle ages and into the dichotomies of modernity, to arrive to the twentieth-century precursors. Additionally, this anthology includes an extensive collection of foundational texts by the main authors of the field, commented and put into historical perspective by Favareau. The intention here is rather of a much more modest nature, namely, offering an epistemological perspective for navigating through the embedded communication processes in biological and cognitive systems, delineating the common characteristics to the different embedded levels, trying to see the links between levels, and challenging the common notion of hierarchy to promote a more suitable *heterarchical* perspective, in the hope of contributing to bridge the gap between biosemiotics, cognitive semiotics, and, eventually, the well-established field of cultural semiotics.

The bridges possible to be constructed between biological semiosis and cognitive semiosis are very different from the biological reduction intended by cognitive neuroscience, so this point should not feed the skepticism of humanities-oriented cognitive semioticians, because biosemiotics does not pretend such reduction, given that it allows and accepts the emergence of thresholds of semiotic freedom that depend on embedded biological semiotic processes but are not reducible to them.

49.2 Signals, Information, Signs, or Representations?

As claimed by Danesi (2007), most major semiotic terms and concepts are not devoid of a partisan view based on different semiotic traditions, branches, schools, or methods—leading to terminological inconsistencies and a “a host of *sui generis* neologisms.” Additionally, some of these terms may overlap considerably with terminological practices in other disciplines such as philosophy, psychology, mathematics, linguistics, cognitive science, cybernetics, and philosophy of mind, for instance. Different attempts have therefore been made in order to either systemize encyclopedic efforts to disambiguate semiotic terminology (e.g., Nöth 1990) or to “standardize” it for methodological reasons (e.g., Danesi 2007).

From the cognitive semiotics point of view, Zlatev (2009) states that his major disagreement with biosemiotics (as with many current varieties of Peircean semiotics) is in the definition of the concept of the *sign*, arguing that a word or a picture is quite literally a sign, but that hormones, transmitter molecules, etc. are “signs” only in a metaphorical sense. However, it is not completely clear whether this statement raises the semiotic threshold to human communication or whether cellular communication through hormones is still to be considered a semiotic process, even though not a sign process. Maybe the latter is the case for Zlatev since he also claims that sign function is a particular kind of human conscious semiosis (maybe present also in some other higher animals species capable of symbolization), but does not exclude other types of semiosis since “among many different kinds of meaning, signs are a special (and important) type” (Zlatev 2009, p. 176). He also endorses Sonesson’s insistence on “the meaningless to write about ‘dyadic’ vs. ‘triadic’ sign-notions, without clear criteria for what concepts such as ‘object’, ‘representamen’, ‘interpretant’, ‘expression’, ‘content’, ‘referent’ etc. *actually* may apply to.”

Even though biosemiotics (and also cognitive semiotics as other semiotic endeavors) cannot be reduced to a single position in the way of understanding sign relations and related terms, what I try to show is that what is important is not which term to precisely choose for which level but to make clear the logic behind all these related terms, in order to avoid the risk of reification of their metaphorical use. In this sense, it can be shown that the dyadic/triadic *action* distinction is not a trivial one. Zlatev (2009) admits that his “strong claims” are bound to ignite the opposition of most Percian approaches, but in my opinion the mistake lies in the fact that the opposition does not necessarily need to come from the Percian camp, just as there is no need to assume the entire Percian metaphysical construction to see

the important logical difference in causal terms implied by the distinction between dyadic and triadic action, which is actually what is made clear by the logic of the triadic model of the sign. Actually, the dyadic/triadic logical distinction can also be found, with different wordings, in many different epistemological approaches to life and mind (for example, Bateson's distinction between *pleroma* and *creatura*, or a "neo-Aristotelian" notion of causality (Emmeche 2007) go in the same direction).

The reason why I have indulged in this (apparently endless) discussion in the last three paragraphs is that inevitably I need to rely on some of these controversial terms. However, I will not spend much time in clarifying or defining terms that are intrinsically related to each other, sometimes almost in synonymy, and which have already been the subject of extensive discussions. In the present context, I prefer to rely on the semiotic wit of the reader. In particular, the set of terms that I have in mind are "information," "signal," "token," "representation," "model," "pattern," and "sign" (and others could be added in this category). The reader may already have sensed what is the common denominator of this set of terms, which could in fact be defined tautologically in relation to each other. Rather I concentrate on the common logic that lies behind them and, most importantly, on the kind of causality they imply.

It is thus possible that the controversy on whether there is semiosis (or sign action) at the cellular level is a terminological one (as Zlatev (2009) also suggests) as very few biologists and semioticians would nowadays claim that there is (literally) no communication between cells and their environment (including other cells). However, in relation to what has been discussed above, many scholars could claim that semiosis and communication are not one and the same thing, implying that there can be many ways of communicating without the need for signs, or more precisely, without the need for the logic or causality implied by signs, and/or that only communication with signs (defined in a particular way) constitutes semiosis.

From a phenomenological perspective of cognitive semiotics, Sonesson (2009) poses stringent criteria for sign action, namely, that the subject must be capable of consciously differentiating, i.e., not confusing, the sign vehicle and what it represents, and that they do not go into each other in time and/or space. Furthermore, in this particular phenomenological perspective, the notion of sign is equivalent to that of representation and they are said to exist only when there is this double *differentiation* between sign vehicle (expression) and what it refers to (content; Zlatev 2009). This leads Sonesson to argue that "There are reasons to believe that the sign, in this sense, is available to very few, if any, animal species apart from human beings (let alone single cells)..." (Sonesson 2009, p. 139).

Zlatev (2009) exemplifies this with Persson's (2008) investigation of great apes' understanding of pictorial signs, where Persson distinguishes between (a) "surface mode," in which only the marks of lines and color are perceived; (b) "reality mode," in which the picture is confused with the object it represents, e.g., a banana; and (c) "pictorial mode," in which the sign vehicle is seen as an expression with a certain kind of content, which can, but need not represent a particular object. For Sonesson and Zlatev, only in the "pictorial mode" is the picture a sign, being in their view a clear representational, as well as *intentional* (i.e., directional) relation, mediated by

the picture's content. On the other hand, in the present framework, the triadic relation implied by representations (i.e., directionality, goal orientation, intentionality) is extendable to other embedded informational processes. Saying that if the "picture" is confused with the object it represents its perception does not constitute an instance of a triadic causal relation (i.e., representation and intention), would imply that the perception of a real banana does not constitute neither such a triadic causal relation. The perception of a banana by a seeing organism is a very complex biological and cognitive process, which implies many levels of integration and bindings, the last of these bindings being the semantic association triggered by the object on the observer, which then will be followed by an action from the respond repertoire (in continuity within the enactive functional cycle). All the transformations and integration of "aggregates of differences" in this complex process imply transformations of representations leading to the elaborated percept of the banana, which is not the banana itself. Furthermore, the percept of a banana in the monkey's *umwelt* is different from the percept of the banana in a dog's *umwelt*. These percepts are based on embedded representations. This does not mean of course that the banana can be a sign of itself, but it does mean that there are representations involved and that there are triadic causal relations, which are not physically deterministic and which are framed in different degrees of semiotic freedom. As the species-specific *umwelt* gets more sophisticated and becomes able to incorporate and integrate higher diversity of semiotic resources, the wider its response repertoire becomes, meaning in turn a higher degree of semiotic freedom.

Based on these criteria for sign action, however, Zlatev (2009), on behalf of cognitive semiotics, advocates for "a *general interdisciplinary theory of meaning*, where semiotics as 'the systematic study of meaning making' (Fuller 1997, p. 30) rather than 'the study of signs'...is one among several sources of inspiration." I would go even further to broaden the scope to "semiosis as communication," as for example in the connection made by Wilden (1987) between semiotics and Gregory Bateson's innovative epistemology of life and mind.

Given the above discussion, one of the most "neutral" terms to address the triadicity of semiotic relations at different hierarchical levels turns out to be "representation," and therefore I have often preferred this term. In Bruni (2008a), I have emphasized the distinction between "representation" and "image" so that the problem of anticipatory function and the related normativity (the normative representational content) can also be posed at the cellular level during the processes of signal transduction, keeping in mind that this lower-level representational content contributes to more complex representations such as the ones emerging in "neural-based anticipatory functions" and "image formation" (in any sensorial modality). This includes in general any event where there is semiotic convergence or integration where the sensed or perceived unit is associated to "something" within the cellular, physiological, or cognitive organization, or participates as a concomitant element to determine a consensus at a new emerging level (Bruni 2008a; Arnellos et al. 2012).

However, in the dialogue between biosemiotics, cognitive semiotics, and the related disciplines biology and cognitive science, the term may still be controversial, particularly taking into consideration the "disembodied" idea of representation

that has taken shape in the “traditional” cognitive science’s symbolic paradigm. As pointed out by Emmeche (2007), critic to the classical functionalism of traditional cognitive science and AI has arrived from enactive cognitive science, from ideas of situated and embodied robots and from the ideas of embodiment implicit in cognitive semantics. This has led to a radical criticism of the notion of representation, even questioning its ontological status. These views, while necessary, “may lead too hastily to radical anti-representationalist stances...” (Emmeche 2007, p. 245), an opinion which is shared by Zlatev (2009), who states that both phenomenology and enactivism reject an (internal) representational model of perception, insisting rather on the functional cycle of the embodied, moving and interactive subject as a whole. But by focusing on perception, and having the notion of “representation” of traditional cognitive science as reference, these approaches are led to reject representationalism as a whole (Zlatev 2009).

On the other hand, biosemiotics strives to build more adequate notions of “representation” and “information” than classical cognitive sciences, where the “standing for” or the “mediating a significant effect” is central, and therefore its closeness to the triadic description of signs. According to Emmeche (2007 p. 256), the representationalism of classical cognitive science, being a dyadic notion of representation, tends to disregard the open-ended and processual character of semiosis, and is in contrast with the triadic nature of sign (or informational) processes and the kind of causality involved in a Peircean (or for that matter also a Batesonian) conception of representation.

Therefore, in accordance with Emmeche, my use of the term “representation” is more in line with Bateson’s notion of “transforms of aggregates of sensed differences,” i.e., processual mappings in the flux of embedded genetic, metabolic, physiological, behavioral, and cognitive processes. In this perspective, what these critical arguments tend to neglect is the causal logic that lies behind the notion of representation, namely triadic or semiotic causality, which is in fact common to the rest of the semiotic terms mentioned before, i.e., sign, pattern, information, message, signal, idea, image, etc. I neither claim that all these notions are synonyms nor do I mean to ignore the century-long ontological and epistemological disagreement about their definitions in the most disparate contexts. Yet, I believe that, from the perspective of biosemiotics and cognitive semiotics, some general characteristics or features common to all these notions can be postulated, namely that they have ontological status; that they imply some kind of triadic or semiotic causality; that they function, or are present, at different embedded levels in living and cognitive systems; and that their manifestations at “higher” levels are functionally dependent on their manifestations at “lower” levels—however, not in a causally deterministic fashion, allowing therefore for an increase in semiotic freedom. Such *heterarchical embeddedness* of triadic causality entails a process of emergence observable in the teleological and goal-oriented characteristics of living and cognitive systems in all the different degrees of semiotic freedom (see Bruni 2008a, b). One may try carefully to avoid some, or all, of these terms, but that will probably lead to the using or coining of similar ones, because the logic in the processes that we study will still be there.

49.3 Semiotic Thresholds and Hierarchies

One of the most natural meeting points for biosemiotics and cognitive semiotics is the discussion about semiotic thresholds and the hierarchical organization of semiotic processes in nature. The reason for this may be that the definition of such threshold(s), i.e., the boundaries for delimiting when a process is semiotic or not is actually what defines and gives identity to these fields of study. As mentioned before, the problem is that there is no agreement on what it means that a process is semiotic in nature. However, most traditions and schools recognize the action of signs as central and definitional of semiosis, but then again there are numerous ways of understanding what a sign is.

From the biosemiotic point of view, Kull (2009; Kull et al. 2009) argues that the basic features which go together with semiosis include memory, self-replication, recognition, agency, inside–outside distinction, codes and semiotic controls among others, most of these features being present at the cellular level. In fact, as previously mentioned, it is customary to recognize the cell as the most elementary integration unit for semiosis, i.e., as the lowest semiotic threshold (for a perspective on cellular semiotics see Bruni 2007).

As early as 1972, Umberto Eco attempted to define such a lower semiotic threshold (Nöth 1990; Kull 2009). Physiological stimuli, most natural indices, and neuro-physiological and genetic codes are below Eco’s idea of semiotic threshold, as they are not based on social conventions. However, animal communication would be included if “there exist patterns of signification which can, to a certain degree, be defined as cultural and social” (quoted in Nöth 1990).

Thure von Uexküll and his colleagues (1993) introduced the distinction between endosemiosis, the dynamic communication and semiotic relations within organisms (at the cellular and physiological levels) and exosemiosis, the semiotic processes and communication that takes place between organisms at population, community, and ecosystem levels, including humans with the particularities of the species. In this view, all endosemiotic sign processes are (directly or indirectly) linked to phenomena in the organism’s environment. Organisms are wrapped in semiotic networks in which specific circulating signs are accessible only to complementary systems of interpretation. This “inside–outside” relation repeats itself as in a fractal structure in the different embedded levels of organization from cells to organs, physiological systems, organisms, communities, etc. As put by Anthony Wilden:

The human biological individual is a visible and tangible organism with a complex brain and nervous system and many other modes and systems of communication bounded by the skin...our “insides” are in fact “outside”...and defined by a real and ecological network of relationships with nature and society at many levels.... The social self is an invisible and intangible open system with a complex mind and emotional system and many other modes and systems of communication, but without any boundary in anyway similar to the biological boundary of the skin. And rather than existing “in our head” or “inside the body,” the social self exists only in relationships, relationships between selves and others in society in history. (Wilden (1987), p. 76)

In this direction, Hoffmeyer (1998) elaborates further: “The membranes of living systems—at whatever level, i.e., whether they encircle sub-cellular organelles,

cells, tissues, organs, or organisms—are in fact best described as interfaces facilitating a highly regulated exchange of signs between interiors and exteriors.” Therefore, “Living systems may be seen as consisting essentially of surfaces inside other surfaces” (Hoffmeyer 1998).

By considering processes of communication (semiosis) as a central characteristic of living systems from the lowest to the highest aggregation levels, biosemiotics seeks to develop a notion of (biological) “information,” “sign,” “representation,” or equivalent mediating tokens, that is relevant to the different complexity levels of the living world and to the multiple biological disciplines that study them. These levels go from molecular genetic to the epigenetic (whole cell) levels up to more systemic levels which include various types of communication systems such as the nervous, immunologic, endocrine, ethological, and cognitive systems. Above all, what is needed is an emphasis on the communication between embedded levels. As we will see, independently of how one draws the biological–cognitive–semiotic “hierarchy,” the important issue to keep in mind is that there are processes of (for example) pattern recognition and categorical sensing and perception that imply contextual interpretation of complex “signals,” “information,” or “signs” at any given level and between levels in the continuum of the embedded systems (Bruni 2008a). As we go up in the scale (or “hierarchy”) of the emergent processes, there is an increase in the semiotic freedom of the systems involved, and the context acquires further importance and complexity, since it encompasses lower embedded levels.

Kull (2009) sees as a central question how to map “intentionality” (in a very broad sense) onto the “ladder of thresholds,” being the first or lowest semiotic threshold coextensive with life itself, i.e., with the appearance of a living cell. The next question would be “whether the large variety of types of semiosis in different organisms, from a cellular to a self-conscious human communication, presents a variability that is entirely gradual, or whether it may include sharp qualitative changes” (Kull 2009, p. 13). In stipulating such a hierarchy of semiotic thresholds zones, Kull agrees with Deacon (1997) on an evolutionary genealogy that considers the symbolicity level as the highest threshold zone, assuming that “the threefold classification of semiosis into iconic, indexical and symbolic has ontological status, the lower threshold is also the iconicity threshold zone, and there is evidently an indexicality threshold zone existing in-between.” Based on this, he identifies three major levels of evolutionary or ontogenetically established semiotic relations:

1. The vegetative level (iconic relations)
2. The animal level (indexical relations)
3. The cultural level (symbolic relations)

This evolutionary hierarchy from iconic to indexical to symbolic thresholds is also present in Zlatev’s (2009) “semiotic hierarchy” (see below). Whereas I can easily see that these postulated levels presume different logical capacities, different types of memory and therefore different types of *umwelten*, I would not take for granted the ontological status of the genealogical hierarchy from icon to index to symbol. This ascending evolutionary hierarchy of signs from iconic to symbolic is implying, and in a sense reifying, that there exist purely iconic, indexical, and symbolic signs, which would be equivalent to saying that in nature there are purely analogical or

purely digital codes, as if these communication modes do not actually coexist in a dialectic dynamic.

From the (phenomenological) cognitive semiotics perspective, Zlatev (2009) presents a proposal to define what he calls “the semiotic hierarchy.” He sets out to develop an integrative, evolutionary–phenomenological–semiotic theory of meaning as one possible instantiation of the cognitive semiotics program. In his view, such an integrative approach requires *an evolutionary framework*, the intention being to provide “an antidote to the fragmentation of the concept of meaning.” In his hierarchy, Zlatev argues for four (macro) evolutionary levels in the organization of meaning, being from lowest to highest:

1. Life, including all living organisms (the biological level)
2. Consciousness, what constitutes the “minimal self” (phenomenal level)
3. Signs, giving rise to the “enculturated self” (significational level)
4. Language, the advent of the “linguistic self” (normative level)

These levels constitute an “implication hierarchy” in the sense that each level rests on the previous ones and makes possible the attainment of the next, i.e., the higher levels presuppose the previous existence of the lower ones. However, Zlatev recognizes that these levels are indeed very broad, and that within these, various “sublevels” may be identified. In accordance with Kull (2009), he also maps these levels onto an ascending evolutionary hierarchy, which starts with the appearance of pure iconicity, evolving to relational iconicity, passing through indexicality to arrive to symbolism. The main evolutionary question in this framework is “*how* life can give rise to consciousness, consciousness to signs, and all of these to language....”

The current debate seems to put too much exclusive emphasis on evolutionary issues at the cost of paying little attention to the developmental or physiological questions, i.e., the synchronous embedded heterarchical processes of semiosis in living and cognitive systems, which are the focus of the present work.

Zlatev shares with biosemiotics the need to find a place for meaning in nature acknowledging that several impressive attempts at providing an integrative semiotic framework have been proposed from the biosemiotic perspective. However, he goes in detail to enumerate his differences and contentions with biosemiotics, some of which may sometimes, in the opinion of this author, fail to account for the plurality of views existing in the biosemiotic program. What Zlatev seems to be misunderstanding from biosemiotics, and therefore his disagreement on the lower semiotic threshold, is the alleged lack of acknowledgement of the major qualitative differences between “lower-level” features such as sentience, primitive *umwelts*, proto-intentionality or goal-oriented behavior, proto-experience, proto-consciousness, proto-subjectivity, and the full-blown human conscious intentionality, subjectivity, symbolic reasoning, and phenomenological experience of the “higher” levels. No one in biosemiotics would obviate such differences, neither Jakob von Uexküll nor contemporary biosemioticians. Hence, we have the ongoing debate on the hierarchical organization of semiotic processes, including Zlatev’s own theory of “the semiotic hierarchy.”

Also, from a biosemiotic perspective, dealing specifically with the issue of the complex multilevel phenomena represented by human embodiment, Emmeche (2007) delineates a dynamic hierarchy including “at least a physical, a general

biological-organismic, a specific animate-zoological, and a human sociocultural level.” Equivalent to Zlatev’s “implication” hierarchy, Emmeche refers to a “specification” hierarchy, where there is a one-way relation of inclusion between the levels. Not disregarding evolutionary considerations, Emmeche however pays special attention to the emerging nature and the dynamic interrelations between these embedded levels: “We could not, as humans, be embodied—that is, be material creatures co-evolving with an existential-phenomenal world of situated activity involving emotional experiences, feelings, cognitive processes, perception and action, a specific perspective, placed in historical and biographic time regimens—if we were not rooted in an organic world . . .,” considering in this way that our “first” biological nature is not something nonsemiotic. Therefore, “one cannot limit oneself to the gross primary levels of reality including the physical, the biological and the social level of embodiment, one has to do a more fine-grained analysis of various biological forms of organismic existence before we can make sense of a distinction between biological and human embodiment” (Emmeche 2007, p. 247).

Emmeche’s “hierarchy” proposes a scheme for distinguishing between levels of embodiment corresponding to different degrees of complexity involved in sign interpretation processes:

1. The body of physics: Dissipative self-organizing structures. “Thermo-teleology”
2. The body of biology: The organism as a vegetative, physiologic–homeostatic self-organizing structure. *Bio-functionality and irritability*
3. The body of zoology: The animal as an autonomous, self-moving organism. *Intentionality and consciousness*
4. The particularity of the human species, overlapping two aspects:
 - a. The body of anthropology: The human body as a signifying animal, incarnating a sociocultural specific lifeworld. *Desire, histrionics, and conscience*
 - b. The body of sociology: A “cybody,” i.e., a societal body dependent upon technology, embedded in a civilization. *Cosmopolitics, hybridicity, posthumanity*

One forerunner or precursor of contemporary biosemiotics to whom little attention has been paid is Anthony Wilden, and yet his seminal writings (Wilden 1972, 1987) have a lot to offer to the present discussion about “hierarchies” and the natural link between biosemiotics and cognitive semiotics. In the trail of Gregory Bateson, Wilden is also interested in the embedded relation and continuity between life and mind, representing perhaps “the missing link” between Bateson’s cybernetic epistemology of life and mind, and the semiotic disciplines.

In his “hierarchy,” Wilden proposes to transcend the predominant matter–energy considerations of the natural sciences (including biology and the neurosciences) to stress the importance of the concomitant processes of communication at the different levels of complexity in such hierarchy. Thus, the biological media constrain and condition life while at the human level social and cultural media constrain and condition persons (Wilden 1987, p. 70). He expresses that in order to understand the communicational relations in nature and society, it is important to identify the different “levels of complexity.” When delineating the thresholds of this hierarchy, he prefers to use the term “order of complexity” to mean that there is more than one level of complexity between the four thresholds that he establishes. Thus, Wilden refers to the following four major “orders of complexity” in the cosmos:

1. The inanimate (closed systems of inorganic relations (informationally) independent of their environments)
2. The organic and ecological (open systems of organic relations within and between organisms, and between organisms and the environment)
3. The (human) social (open systems of social, economic, political, interpersonal, and other relations between human beings)
4. The cultural (open systems of human relations with similar social systems)

He sees these orders of complexity embedded in a “dependent” hierarchy (similar to Emmeche’s “specification” and Zlatev’s “implication” notions of inclusion) in the sense that each order of complexity, being an open system, depends on (and is therefore constrained by) the orders in which it is included and on which it depends for the matter–energy and information that is required for its existence, survival, and eventual reproduction. That is, culture depends on society, society on the organic world, and this latter on the inorganic world. The boundaries between these orders of complexity are open-system boundaries and by no means barriers or “adamantine spheres.” Every person, for instance, is a complex of “both–and” relationships between all four orders of complexity (Wilden 1987, pp. 73–74). The fact that these orders of complexity are not related to each other by either/or relations of exclusion is part of the arguments for which I claim that rather than hierarchies we should be referring to heterarchies.

In Wilden’s hierarchical organization, there is an increase of generality of the constraints at work in the direction that goes from culture “down” to inorganic nature. While in the opposite direction, from inorganic nature to culture, there is an increase in diversity, complexity and, most importantly, “semiotic freedom.” In this regard, Wilden is probably the first author to have proposed differential levels of increasing semiotic freedom in the hierarchy of the living world (something to which we will return shortly). Figure 49.1 above shows a schematic summary of the four hierarchies presented so far.

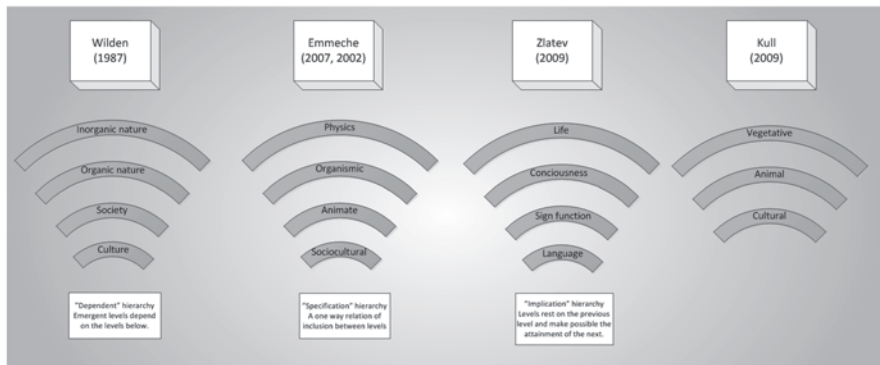


Fig. 49.1 Four models of hierarchical organization of semiosis implying different semiotic thresholds. (Wilden 1987; Emmeche 2007, 2002; Zlatev 2009; Kull 2009)

49.4 Heterarchical Embeddedness: From Signal Transduction to Narrative Intelligibility

One thing in common to the different semiotic thresholds postulated by the various authors reviewed above is that they entail an ascending scale of sophistication in terms of *umwelt*, semiotic resources, freedom, and creativity.

As I have been insisting, in my opinion the important point is to be able to trace and map in these models of hierarchies the continuity and/or the causal links of the increasing semiotic freedom from the lowest to the higher levels, which is then what determines not only the (evolutionary) transitions from proto-intentionality and subjectivity to the full-blown versions but also the *heterarchical embeddedness* of these levels which are by necessity manifested in simultaneity. This point entails a particular definition of heterarchical semiotic freedom, which goes along with the existence of adequate substrates and structures that support such different degrees of freedom, from intra- and intercellular signal transduction to what is afforded by the development of sense organs, nervous systems, brains, and cognitive systems, which cannot be denied to be in relation with other complex physiological communication systems, including the endocrine and the immunological systems (or its equivalent in lower species).

Jakob von Uexküll's seminal notion of *umwelt*, i.e., the subjective representation of the world experienced by organisms—in other words, the most global mapping of the context that a particular organism is capable of acquiring given the constitution of its sensing, perceptive, or cognitive system—can be projected in such semiotic scale of freedom and creativity accounting for the great diversity in sensual, perceptual, cognitive, and behavioral modes (and underlying embodying structures) found in nature.

From the most primitive to the more sophisticated *umwelts*, there is always some kind of representation involved—call it signals, “aggregates of differences,” information, signs, patterns, models, tokens, etc. Independently on how one defines any of these terms, individually or in relation to each other, at whatever semiotic threshold level one decides to accept their existence, they will always imply some sort of *triadic causality* as long as we are defining them from a biological or cognitive perspective which means therefore, in this framework, from a semiotic perspective.

In science in general, and in physics and biology in particular, the term “causality” leads to misunderstandings because it is almost always assumed to equate with material-efficient causality. Whereas this may be acceptable in physics, on the other hand, in biology and cognitive sciences “generic causality” cannot be taken for granted to refer exclusively to material-efficient (or mechanical) causes, what Jakob von Uexküll referred to as the “incessant dance of atoms controlled by natural laws of causality” (1928, p. 22; Favareau 2009).

Having been the Aristotelian categories of formal and final causality so repeatedly vilipended by modern scientists, new terms have been needed to describe the kind of causality implied in informational and semiotic processes which are characteristic of biological and cognitive systems. The causality implied by the sign function is equivalent to Bateson's distinction between *pleroma* and *creatura*, that is, the

difference between the world of nonliving billiard balls and galaxies where forces and impacts are the “causes” of events (Bateson 1979; corresponding to Peirce’s dyadic action), and the world of the living—where *distinctions* are drawn and a *difference* can be a cause—all processes in which the analog of cause is information, i.e., the entire biological and social realm of communication, necessarily embodied in material forms subject to physical laws of causation (Bateson 1979; corresponding to Peirce’s triadic action). This is precisely the logical understanding that the concept of sign brings to the scene. Therefore, I have used the term “triadic causality” (Bruni 2003, 2008a, b) as pertaining situations in which there is, in the simplest instance, a response to a sensed difference in a nonmechanical way, as opposed to mere impacts and energy exchanges. Such triadic causality has been routinely subsumed under the labels of “intentionality” and different kinds of “teleology” but we need not fear anthropomorphism to refer to the “aboutness” to which these terms refer, neither do we need to indulge in the recourse to camouflaging euphemisms. The logic behind is what is important. As stated by Favareau, representation, the sign relation of “standing for” is common to all these terms and ubiquitous in the biological world (Favareau 2009).

In relation to this, *semiotic freedom* may be understood as the degree of divorce between the deterministic coupling of the material–mechanical dynamics of a systemic process, and the observable causal outcomes of that process (Bruni 2003, 2008b). Such a divorce starts whenever the kind of causality originating in *information* (or sensed differences) is invoked from a purely material medium such as cell receptors, photoreceptors, or mechanoreceptors. This is, for example, the kind of causality that is operating when a cell integrates thousands of “signals” into a “response.” It is not the *quantity* of signals and the force of their impact onto receptors that imparts a certain direction to the system, but rather, the particular constellation of signals (i.e., patterns) as evaluated within the context and internal coherence of the system, and placed in relation to a repertoire of possible responses (Bruni 2008b). The first degree of semiotic freedom coincides with the threshold of life, the single cell, where it is possible to observe such a first level of divorce from brute material–mechanical causality. It is not a trivial response for a cell to turn and start moving in the right direction (Rose 2005) and this is just one of many possible behaviors that cells may exhibit. The “decision” requires a highly complex assessment of the context and the availability of an appropriate response repertoire. Maybe the reader has problems in equating this “assessment” to an “interpretation process,” but what makes this process semiotic in nature is that the complex cocktail of variable concentrations of diverse molecules has to be sorted out, bound as a “coherent” pattern and associated, on a continuous basis, to the appropriate response (analogous to the integration that occurs when a cognitive system “binds” a complex multimodal percept). The myriad of molecules impacting the receptors of the cell do not physically push the cell in the resulting direction. This is what is meant by the process being driven by triadic causality and not by efficient physical causality. This process of sorting out and recognizing specific patterns of molecule blends in cellular signal transduction has been characterized in detail as a process of “categorical sensing” in Bruni (2007, 2008a). From there, more complex systems of forming,

integrating, and categorizing “logical products” emerge, affording the achievement of those processes that are characteristic of life: sensing, perception, cognition, consciousness, imagination, symbolic reasoning, and so on (Bruni 2008b).

The fact that these processes, even in the simplest of unicells, turn out to be the basis on which the entire complex apparatus of nervous systems and brains is subsequently built does not escape neuroscientist Steven Rose (2005). What I want to stress here is not so much the evolutionary history from precursors and prototypes to advance communication and semiotic systems, but their (synchronous) interrelation and *heterarchical embeddedness* in biological and cognitive processes. Lower processes of categorical sensing turn out to be embedded and implied in higher levels of categorical perception and logical categorization in the biological and cognitive scale.

A sound description of such processes needs to depart from a view that adheres to a strictly hierarchical organization, which may give an idea of linear bottom-up causality. It is preferable to opt for a heterarchical approach. Different from (and complementary to) a “formal hierarchy,” in a *heterarchy* there can be relations of complementarity and subordination between categories of different logical levels, giving place to a more network-like nature of emerging processes than a strict relation of vertical subordination, i.e., the horizontal relations are as important (Bruni 2008a). Structures and substrates are by necessity organized hierarchically, while communication processes—and their embeddedness—are rather organized heterarchically (Bruni and Giorgi 2015). This makes it hard to “localize” certain instances of “agency” within such embedded systems, which in turn has sometimes made biosemiotics approaches liable to accusations of anthropomorphism, because one can localize structures, but not processes that are based on the recognition and distinction of patterns and logical products that are *represented* by substrates (i.e., sign vehicles).

Thure von Uexküll et al. (1993) also stated that a linear hierarchical scale cannot account for the complexity of semiotic processes. Therefore, biosemiotics searches for multidimensional and ramified models as well as for circular models joining together different integration levels (von Uexküll et al. 1993, p. 9). Therefore, these integration levels should not be considered as sharp frontiers, given their coextensive nature. More subtle integration levels can be identified in between these levels and these are not necessarily manifested as emerging physical structures but sometimes can also be manifested as a new complex logical product based on already existing structure (Bruni 2007).

Anthony Wilden’s definition of semiotic freedom, although “mapped” onto a hierarchy, is very much in line with the heterarchical perspective advocated in this chapter:

For goalseeking, adaptive open systems—systems involving or simulating life or mind—constrains are the basis of complexity and the conditions of creativity.... A constraint both limits and defines the relative ‘semiotic freedom’ of the goalseeking subsystems in the systems it constrains; it is at the same time a principle of organization.... By relative ‘semiotic freedom’ I mean the relative freedom to use information to organize matter-energy or the relative freedom to use one kind or level of information to organize another kind of level. In complex systems, relative semiotic freedom describes a bounded ‘sphere of possibilities’, or a many dimensioned ‘function space’, through which goalseekers may trace

an infinite diversity of pathways in space and time, without going beyond the system's constraints.

A constraint is not a cause, like a physical force, nor a positive control, like steering, that makes something happen. Constraints are limits, like grammar, conscious or not, that define the conditions of what is not allowed or not supposed to happen. (Wilden 1987, p. 77)

When we talk about emergent properties, we usually take for granted that emergence occurs from a complex combination of material–mechanic (dyadic) causal events giving rise to the emergent level. Seldom do we consider the case of a “second order” emergent process (Bruni 2008b), which originates from a complex combination of causal factors that are themselves emergent properties of a first order. So the higher the order of emergence of the factors involved (i.e., emergence from combinations of emergents) the higher is the degree of semiotic freedom, diversification of constraints, and possibilities for creativity. Thus, semiotic freedom may increase in proportion to the number of transformations that such huge aggregates of differences go through in order to form complex percepts. However, the most significant increases in freedom come from the second-order emergence that takes place through the combination and integration of lower-order emergent logical products. This can take place in elementary sensing processes, as for example at the cell level, or at the level of more complex and elaborated sensing–perception–cognition–action processes (Bruni 2008b). An important and recurrent aspect to consider at all levels is what could be called *semiotic integration*: from complex aggregates of sensed differences to more elaborated representations, up to perceptual images, the organism operates physiologically and cognitively to organize such complex aggregates of differences into intelligible units that are then subject to associations, appraisal, and decisions.

49.5 Conclusion

Several models for “semiotic hierarchies” and respective semiotic thresholds have been proposed by different authors (Wilden 1987; Emmeche 2007; Kull 2009; Zlatov 2009). It is therefore necessary to work towards a framework that accounts for the continuities or discontinuities of such possible semiotic thresholds—or “semiotic thresholds zones”—in the embedded organization of bio-cognitive systems: from the most elementary levels of pattern recognition in cellular signal transduction to the sophistication of narrative intelligibility.

The study of biosemiotics and cognitive semiotics also entails that embedded processes at different threshold zones share some very general principles, logic, and work modality. Thus, *some* of these principles, which I have addressed here, are:

1. The capacity to detect aggregates of differences from the surroundings
2. The capacity to sort out and integrate patterns from such differences, i.e., to form representations
3. The capacity to associate and enact a response to the recognized pattern from an existing response repertoire

These three basic capacities build up heterarchically within and between organisms and entail or result in other important related capacities (such as memory and learning). The main tenet of this chapter has been that triadic causality is present at all postulated levels but cannot be accounted for exclusively at a single level but as part of the emerging process that leads to higher-level interactions and relations. This can be viewed through a broad understanding of semiotic freedom as being the scaling result of this emerging process. Just as categorical sensing in cells may be considered a precursor of categorical perception through sense organs, it is important to bear in mind that the former process is embedded in the latter, and its concomitant and simultaneous manifestation is a prerequisite for organisms with sophisticated *umwelts* to be able to form coherent and well-defined perceptual units. The cells that form the sense organs are categorically sensing patterns of signals, triggering cellular responses which implied a certain degree of divorce from physical–deterministic causality, i.e., a primitive level of semiotic freedom (and therefore proto-subjectivity), which then are integrated at the subsequent higher levels or thresholds to arrive at the perception level, in which the emerging semiotic freedom increases, i.e., there is a larger margin of indeterminacy (and therefore capacity for directionality) with respect to the underlying efficient causality of the material substrate. Such semiotic freedom increases as the scale of aggregated processes (and underlying structures) gets more sophisticated—from the very basic or “primitive” cellular signal transduction to multimodal image formation to the very human sophisticated capacity for narrative intelligibility and interpretation. Between these extremes there is a myriad of embedded semiotic processes that have to do with many forms of pattern recognition, categorical sensing and perception, integration and semantic congruency, and many other related biological and cognitive processes, which can be found either as “prototypic” forms with low levels of semiotic freedom or as more developed manifestations in higher organisms with increasing levels of semiotic freedom. All these processes are semiotic in nature in the sense that they implied triadic causality, that there are different kinds of representations involved which are specific to the different levels (e.g., sensing, perception, categorization, etc.) constituting a continuous functional cycle from “sensing-perception” to integration–association–cognition, to response–action–behavior involving concomitant heterarchically embedded processes. From the semiotic point of view, I have settled for the term “representation,” but the reader may choose any other preferred term to designate the mediating role of a more or less sophisticated aggregate of “sensed differences” that characterized or “inform” about a particular “reading” of the context for a given instantiation of an embedded unit or agent, be that cells, complex aggregates of cells, organs, systems of organs, whole organisms, populations, communities, societies, and cultures within the heterarchies of life and mind.

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Luis Emilio Bruni has been at Aalborg University (Denmark) since 2004, where he started as an assistant professor in cognitive systems and communication science, and where he is currently an associate professor at the Department of Architecture, Design and Media Technology, in charge of courses on multimodal perception and cognition, digital culture, and narratives in interactive systems. His current research covers relations between cognition, technology, and culture with focus on sustainability. In particular, his interest is in the development of appropriate models of cognition, conation, and affective states that support innovative ways of integrating immersive–interactive–representational technologies with enactive and situated cognition in specific domains and contexts of application. In this direction, he is leading the newly formed Augmented Cognition Lab. For several years, he was a guest lecturer in neuro-bioethics and sustainability at the Department of Biology of the University of Copenhagen. He was a researcher at the Communication Science and Artificial Intelligence Research Centre “Semeion” of Rome, Italy, where he started his studies on cognition, semiotics, and cybernetics. In 2006, he was a founder member of the International Society for Biosemiotic Studies (ISBS), a growing discipline for the understanding of the biological and cognitive basis of intelligibility and interpretation processes, and ever since has served in its executive committee and as member of the editorial board of the *Biosemiotics Journal* (Springer). In 2011, he was elected president of the Nordic Association for Semiotic Studies (NASS). Since 2011, he seats in the board of directors of the International Society for Information Studies (ISIS).

Chapter 50

From Semantics to Narrative: The Semiotics of A. J. Greimas

Peter Pericles Trifonas

Structuralism in linguistics (see de Saussure 1916) has influenced A. J. Greimas' semiotic methodology of text analysis as detailed in *structural semantics* (1983). The method itself has become the core technique of semiotic text analysis of the influential "School of Paris" (see Barthes 1970; Greimas 1983; Derrida 1974). Semiotic theory is founded upon the premise of the existence of a semantic universe or "the totality of significations, postulated as prior to articulation" (Greimas and Courtés 1982, p. 361). The semantic universe embodied in a natural language is too vast to conceive in its totality; thus, any discourse presupposes a semantic universe, on a microscale, that is actualized in part as discourse and that "can be defined as the set of the system of values" (also p. 361). Meaning is achieved through articulation of such a microscale semantics and can be described "by means of elementary axiological structures according to the categories of *life/death* (individual universe), or *nature/culture* (collective universe)" (Greimas 1970, p. xvi). These arbitrary universals are the starting point for the analysis of the semantic universe yet can never be isolated in pure form, but only when articulated. Greimas (1970) explains,

...the production of meaning is meaningful only if it is the transformation of a meaning already given; the production of meaning is, consequently, in itself, a signifying endowing with form, indifferent to the contents to be transformed. Meaning, in the sense of the form of meaning, can thus be defined as the possibility of transforming meaning. (p. 15)

Defining the text as a discursive micro-universe places the text in the position of autonomy excluded from extralinguistic phenomena in text analysis. The organization of discursive structures as narrative creates a distinction between the two levels of representation and analysis: a *manifest*, or surface level and an *immanent*, or "deep" level (Fig. 50.1).

This principle can be applied to other systems not necessarily dependent upon natural language (e.g., cinema, painting, architecture, sculpture, etc.) in order to isolate and explain the structural aspects of the medium as text. For example, in

P. P. Trifonas (✉)

Ontario Institute for Studies in Education, University of Toronto, Toronto, Canada
e-mail: peter.trifonas@utoronto.ca

Fig. 50.1 Types and levels of semantic analysis

IMMANENCE	MANIFESTATION	SEMANTIC SIGNIFICATION
<i>seme</i>	<i>lexeme</i>	<i>sememe</i>
minimal content unit	lexical manifestation	meaning signifier
(deep level)	(surface)	(polysemous)

attempting to bring to light the interrelations between the structural elements constituting a pictorial text (e.g., color, texture, form, composition, etc.) and, thereby, isolate and explain the means of signification as well as the content, it is possible to avoid speculation and ground the analysis within the structural aspects of the text itself. The analysis can then be extended to examining the role of the viewer in relation to the production of the text (Eco 1976, 1984).

Greimas’ linguistic framework is based on de Saussure’s (1916) concept of *difference* (see Derrida 1974), or the notion of binary oppositions and distinctiveness of functional phonology as presence and absence, and the *glossematic* sign model (see Appendix A) of Hjelmslev (1943). Structural lexicology forms the basis for the semantic analysis of textual structures. Semiotics, according to Greimas and Courtés (1979), is operational as a theory of signification “when it situates its analyses on levels both higher and lower than the sign” (p. 147).

On the lower level, *semes*, or the minimal unit of semantic componential analysis, function to differentiate significations and form *semic systems* subdivided into *semic categories*. On the higher levels, are textual units which produce semantic entities greater than signs. Perron (cited from Greimas 1988) explains the model of generative discourse analysis as defined by *generative trajectory*,

...generative trajectory designates the way in which the components and sub-components fit together and are linked together. Three autonomous general areas: semio-narrative structures, discursive structures and textual structures have been identified within the general economy of the theory first to construct the *ab quo* instance of the generation of signification where semantic substance is first articulated and constituted into a signifying form, and then to set up the intermediate mediating stages which transform the semantic substance into the last instances *ad quem* where signification is manifested. (p. xviii)

Discourse production through developing stages, each containing a syntactic and a semantic subcomponent, is postulated as beginning at a “deep” level with elementary structures and extending over more complex structures at higher levels “which govern organization of the discourse prior to its manifestation in a given natural language” (Greimas and Courtés 1979, p. 85; see also Hjelmslev 1943). Manifest textual structures of expression (linear or spatial, phonetic, written or visual) are external to generative trajectory.

At the level of discursive structures, the *seme* forms the “deepest” and most elementary structure of signification; however, it is a theoretical postulate and must be considered as such. Greimas (1983) explains the following.

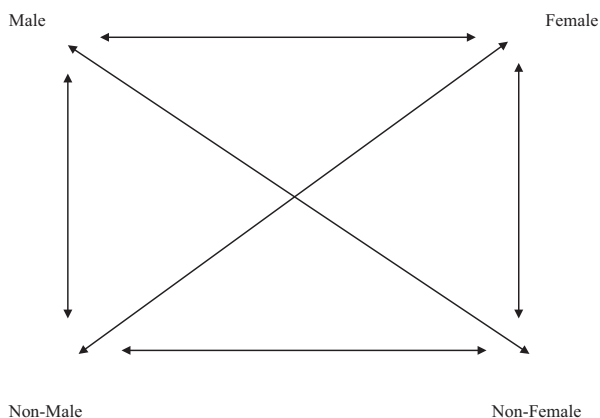
This minimal unit, however, which we have called *seme*, has no existence on its own and can be imagined and described only in relation to something that is not, inasmuch as it is only part of a structure of signification.

By situating the seme within perception, in a place where significations are constituted, we noticed that it received there a kind of existence because of its participation in two signifying ensembles at the same time: the seme, indeed is affirmed by disjunction within the semic categories, and it is confirmed by junction with other semes within semic groupings which we have called *semic figures* and *bases* (p. 118).

It is a minimalist definition of structure where primacy is given to relations between elements based on difference. For example, the difference between *son* and *daughter* at the lexical level is due to the *disjunction* characterized metalinguistically by the features *male* and *female* as part of a semic hierarchy of the content–substance sense (see Appendix A). The common semic category of the two features, *sex*, presupposes any semantic resemblance or *conjunction* between the two features and sets the ground from which the articulation of signification emerges (Greimas 1983). A linear semantic axis with the differential terms *male* and *female* would represent the semes involved as elementary structures of signification. A semantic axis may have different articulations, or lexical fields, in different languages, thus, transforming the content form at the word level. The “deep” level is organized in the visual representation of the semiotic square “where the substance of content is articulated and constituted as form of content” (Perron cited from Greimas 1988, p. xviii) (Fig. 50.2)

The oppositions constituting semantic axes may be represented in the semiotic square as two types of logical relations: *contradiction*, or the relation existing between two terms of the binary category *assertion/negation*, and *contrariety*, or the implied contrariness of one term with the other. For example, the seme s_1 , “male,” is described as the opposition (in terms of presence or absence) of non- s_1 (\bar{s}_1), “nonmale,” in which the seme “male” is absent. The contrary of s_1 , “male,” is s_2 , “female,” which expands the square to a four-term constellation to include the contrary of s_2 which is non- s_2 (\bar{s}_2), “nonfemale.” *Complimentarity* or *implication* now appears between the terms s_1 and \bar{s}_2 or s_2 and \bar{s}_1 : “male” implies “nonfemale” and “female” implies “nonmale” (see Greimas 1970). The “deep” structural nature of

Fig. 50.2 The semiotic square



the semiotic square can be seen in the fact that there may be no lexical equivalent at the surface levels of manifestation to express “nonmale” or “nonfemale” as concepts. Therefore, the *fundamental semantics* at the “deep” level contains the necessary semantic categories that form the elementary structures of signification and the *fundamental syntax* consisting of the relations and transformations which derive and constitute those structures.

50.1 Discourse and Narrative

Enunciation mediates between the semiotic narrative structures, organized as a series of strata along the entire generative trajectory, and their actualization in discourse produced by an enunciator. The discursive structures manifest the surface semiotic structures and set them into discourse by making them pass through the domain of enunciation (Greimas 1988). As Perron (cited from Greimas 1988) notes, “It is the place where, by becoming actualized as operations, the semio-narrative structures make up the competence of the subject of enunciation” (p. xix). “Charged with the discoursivization of the narrative structures and comprising of three sub-components of actorialization, temporalization and spatialization” (Greimas and Courtés 1979, p. 134), the syntactic component is joined with a semantic component and “its sub-components of thematization and figurativization” (Greimas and Courtés 1979, p. 134). At the surface level, *narrative semantics* subsumes the semantic values selected from the deep level of structure that are actualized in the form of *lexical actants* which, in turn, operate at the level of *narrative syntax* (e.g., subject, object, and predicate; Greimas and Courtés 1979) as part of a *narrative syntagm* (or a larger discursive unit, e.g., a sentence or discourse).

In essence, the lexicology of the text is built both horizontally on a *syntagmatic axis* consisting of formal structural elements within a text (be it a word, sentence, or narrative tract) and vertically on a *paradigmatic axis* where possible substitutions between linguistic elements occupying the same structural position within the same expressive context may occur (e.g., the phoneme/s/being substituted for/g/ in the lexeme/go/to make/so/). The juxtaposition of structural elements in a text, at the interpretive level, occurs in relation to syntagmatic indexes (e.g., contradiction, graphic codes, discontinuity, repetition, inconsistency, superfluity, and non-verisimilitude; Todorov 1977). Paradigmatic indexes, at the interpretive level, may consist of: (1) *intertextual paradigms* referring to cultural conventions of human behavior and psychology established external to the text (e.g., characterization, event, and discourse) or (2) *internalized paradigms* constructed from within the text by connecting two or more syntagmatically linked indexes of interpretation referring exclusively to the “textual world” (Eco 1979; Greimas 1970; Kristeva 1969; Todorov 1977). Thus, a text is said “to mean”: (1) lexically at the syntagmatic and paradigmatic levels due to organization and substitution, respectively and (2) thematically, by the syntagmatic and paradigmatic conjunctions and disjunctions created at the levels of organization and substitution, within and without the text, resulting in

interpretive indexes. The second set are *extensional operations* that go beyond the conscious decoding of lexical meaning as a communicative act intended to realize the virtual possibilities of language, or *intensional operations*, and into the realm of activating possible worlds by determining the coherence and plausibility of the vision. For example, the representation of a character or event may be incorporated into the syntagmatic structure of the plot and fabula constituting the text, yet, at the paradigmatic level they have no intertextual or cultural validity, and be relevant only to the textual world as an *intratextual paradigm*. Mythological or fairy tale genres refer to creatures such as dragons, ghosts, and goblins that are unrealistic in a cultural sense because they do not exist in the external world; however, within the world of fairy tales and mythology, as determined by the story and fabula within specific genres, dragons, ghosts, and goblins are perfectly plausible and realistic characters. It is at this point that *actors* (like these characters) are formed as the result of genre function and influences upon the form and perception of narrative utterance (NU).

50.2 Isotopy

Isotopy describes the coherence and homogeneity of text which allows for the semantic *concatenation*, or chain linking, of utterances (Greimas and Courtés 1979). In order to semantically disambiguate terms within a text and assure textual coherence and homogeneity, there must be *iterativity*, or recurrence, of a *claseme* (either semic category or repeated contextual seme) which connects the semantic elements of discourse (sememes). Eco (1984) explains,

The term *isotopy* designated *d'abord*, a phenomenon of semic iterativity throughout a syntagmatic chain; thus any syntagm (be it a phrase, a sentence, a sequence of sentences composing a narrative text) comprehending at least two content *figurae* (in Hjelmslev's sense) is to be considered as the minimal context for a possible isotopy. (p. 190)

On a semantic level, Greimas (1983) uses two expressions *le chien aboye* (the dog barks) and *le commissaire aboye* (the commissioner barks; p. 81) to illustrate that *aboye* (barks) has two classemes: human and canine. It is the presence of the subjects, the dog or the commissioner, that reiterates one of the two classemes and establishes the contextual selection for a literal or figurative reading of the text. A syntagmatic extension of an isotopy is constituted by the textual segments that are connected by one claseme. Ultimately, a "text" which fosters a single interpretation in its semantic structure is a *simple isotopy*, whereas, *bi-isotopy* is the result of textual ambiguities or metaphorical elements that promote polysemous readings. *Pluri-* or *poly-isotopy* is the superimposition of multiple semantic levels in a text (Eco 1984).

The first stage of the theory considered: (1) syntactical (grammarial) isotopies, (2) semantic isotopies, (3) actorial isotopies, (4) partial isotopies (or smaller textual units that are "condensed" into a text as the result of summarizing macropositions), and (5) global isotopies (as the result of partial isotopies) (Eco 1984). The second stage incorporates recurrent thematic and figurative categories where the typology

of isotopies is extended to semiological isotopies covering iterativities in terms of *exteroceptivity* (referring to properties of the external world; see Greimas 1983).

50.3 Function and Actantial Structures

Traditional motif research in narrative has considered actors (on two levels as characters, in anthropomorphic or zoomorphic forms, and lexical subjects, or *actants*, of discourse within a sentence engaged in a thematic role), items (or objects), and incidents as minimal units of narrative analysis (Greimas and Courtés 1979). Propp (1928), however, identified the minimal unit of narrative analysis as the *function* in terms of an action which “cannot be defined apart from its place in the context of narration” (p. 21). Nöth (1990) explains,

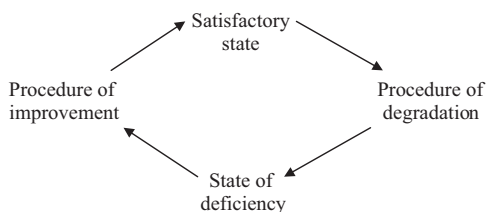
Functions as units of action are narrative invariants, while the agents performing those actions are textual variables. Within his corpus of one hundred fairy tales, Propp discovered a relatively small number of 31 such invariant functions, as opposed to a large number of persons, objects or events (corresponding to the traditional motif). (p. 371)

For example, after the “initial situation” is established in a narrative text, a series of functions may be cited to explain the narrative syntax and progression of the *fabula* (story; see Appendix C). The 31 functions are distributed across seven spheres of action as performed by various characters such as (1) the villain, (2) the donor, (3) the helper, (4) the sought-for person, (5) the dispatcher, (6) the hero, and (7) the false hero (cf. Greimas 1983, p. 201). From Propp (1928), Souriau (1950; see Greimas 1983) and Tesnier (1959; see Greimas 1983), Greimas (1966) formulated a “mythical” model of narrative actants containing three binary oppositions: (1) subject vs. object, (2) sender vs. receiver, and (3) helper vs. opponent.

Essentially, the *fabula* (or story elements of the narrative) and every other narrative structure is reduced to purely formal positions as *actants* (defined lexically as that which accomplishes or undergoes an act, e.g., subject–object, sender and receiver, and narratively as classifications of an actor according to genre) which produce *actantial roles* (Eco 1979). The syntactic order of the actantial categories correspond to “a subject wants an object, encounters an opponent, finds a helper, obtains the object from a sender, and gives it to a receiver” sequence or variations thereof. The NU is, therefore, defined as a process composed of a function (F), in the Proppian sense, and an actant (A), or $NU=F(A)$. The logic of relationships is based upon “knowledge,” “desire,” and “power” where the transmission of a message can be analyzed syntactically as the transferal of “knowledge” and the drama of the acquisition of “power” (“desire” being the motivating force behind the action).

The helper–opponent dichotomy was later abandoned (see Greimas 1970) as a major actantial category and the value transfer occurring among the major actants explained as relationships of conjunction and disjunction according to the semiotic square. Following from the latter model, a narrative sequence can then be said to begin with a relation of conjunction between two actants (subject or object), followed by a disjunction (as a problem or transition phase) which is reconciled in the

Fig. 50.3 Bremond's narrative cycle



redistribution of semantic values as a new conjunction (Greimas 1970): (1) initial state → transition → final state or (2) problem → final stage (see Todorov 1977). Time and causality are the basic dimensions of the narrative process (Ricoeur 1983) that suggest a *linear macrostructure*, or overall sequence. However, the semantic connection between the initial event and the final event may also suggest a cyclical model such as the following containing four phases beginning with either a state of deficiency or a satisfactory state (Bremond 1970, p. 251) (Fig. 50.3):

50.4 Conclusion

The epistemological, theoretical, and methodological principles of structural semantics (see Eco 1979; Greimas 1983) incorporated within the method of semiotics I have detailed provide the basic tools and metalanguage for the semiotic analysis of “text” and are useful only to the extent that they allow for the phenomena being studied to be accounted for in terms comprehensible to the human intellect (Eco 1979). It is in this sense that a methodological structuralism of semiotics—as an operational procedure for analyzing lexical texts—is necessary, because without the metalanguage required, there would be no way to achieve the purpose(s) of semiotic inquiry relevant to the study textuality (see also Eco 1976). A semiotic method of textual analysis is therefore considered to encompass metatextual means or devices (e.g., a metalanguage, a “model,” figures or other visual schemata, etc.) which conceptualize in hypothetical, rather than empirical, terms the intensions and extensions made by the reader in the act of meaning-making relative to the lexical structures of signification manifest in a text as formal elements of structure. Intensional responses are defined as the consciously motivated acts of meaning-making required of, or initiated in, the reader/viewer to realize the signifying potential of the total text.

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Peter Pericles Trifonas is a professor at the Ontario Institute for Studies in Education/University of Toronto. His areas of interest include ethics, philosophy of education, cultural studies, literacy, and technology. Among his books are the following: *Revolutionary Pedagogies: Cultural Politics, Instituting Education, and the Discourse of Theory*, *The Ethics of Writing: Derrida, Deconstruction, and Pedagogy*, *Ethics, Institutions and The Right to Philosophy (with Jacques Derrida)*, *Roland Barthes and the Empire of Signs*, *Umberto Eco & Football*, *Pedagogies of Difference*, *Deconstructing the Machine (with Jacques Derrida)*, *International Handbook of Semiotics*, *CounterTexts: Reading Culture*.

Chapter 51

The Spectator's Reality: A Revision of Screen Space Aesthetics Through Cognitive Film Semiotics

Michalis Kokonis

Judgments of beauty are sensory, emotional and intellectual at once. (Immanuel Kant (Critique of Judgment))

51.1 Introduction

Being part of a larger research project which attempts to investigate and review certain aspects of film language with new insights offered by cognitive semiotics, the present chapter focuses on issues concerning the perception, comprehension, and evaluation of screen images, that is, essentially issues concerning film aesthetics; in such a frame, film images are actually about the organization and experience of space. The reference implicit in this last phrase, of course, is made to the imaginary cinematic space, the “built” space of narrative film, as opposed to the so-called locative spaces of everyday lived experience. Cinema, the most representational of the arts and a potent narrative art form, depends on the aspects of space and time for the articulation of narrative meaning. Thus, the “differentiae specifica” of cinema, its inherent characteristics that diversify it from other art forms, have been registered in film theory through the notions of “frame,” “mise-en-scène” (space), and “montage” (time).

The scope of this chapter limits our discussion to the concepts of frame and mise-en-scène mostly, which bear upon the coordinate of “space” in the structure of any filmic text. Cinematic images, whether conceived of, either as still pictures on the flat surface of a piece of film stock or celluloid, or as the moving images on the theater screen, are defined by the boundaries of the frame, just like the frame that defines a painting or a photograph. The size of the cinematic image differs greatly due the very technology of the medium: The small flat surface of the 8-, 16-, or

M. Kokonis (✉)
Aristotle University, Thessaloniki, Greece
e-mail: kokonis@enl.auth.gr

35-mm film stock, the film size or gauge, is prescribed by the technological factor of the film format (Aumont et al. 1983/1992, p. 9). However, the same content of the film image on celluloid, when projected on the big theater screen, gains in dimensions and proportions, offering a totally different experience. We will need to take this fact into consideration. Also, during projection, the cinematic images shown on the flat surface of the screen acquire an additional dimension, beyond the two-dimensional screen field: they are perceived as three dimensional, due to film techniques, such as the creation of perspective and depth of field. Thus, an imaginary space is created, in which the material represented gives the impression of objects and things as three-dimensional entities, as those perceived in everyday life experience. The impression of verisimilitude evinced by the cinematic images is so great, creating an analogy with real-life images, even in the absence of color in black-and-white films, or the absence of sound in silent movies, due to the illusion of movement and perspective/depth.

Furthermore, this space delimited by the frame borders and thus called “on-screen” space, which is visible but not tangible, is further offset by the imaginary space (or “scenographic” space), according to Aumont et al. (1983/1992, p. 14) that seems to extend *hors-cadre*, that is, outside the frame, which is invisible, but imagined as a result of specific cinematic techniques (techniques that have much to do with the deictic function of certain aesthetic factors that will be dealt separately in the discussion of the semiotic aspect of film). It was precisely this capacity of the cinematic apparatus to employ the offscreen space that led realism proponents in film theory, to claim that the cinematic frame offers a view like a “window” to the world. The dialectic relationship between “on-screen” and “offscreen” space is duly stressed by Aumont et al. (1983/1992, p. 13): “off-screen space [...] is fundamentally bound to onscreen space because it only exists in relation to onscreen space. The off-screen may be defined as the collection of elements (characters, settings, etc.), but nonetheless connected to that visible space by the spectator.”

All of these terms and definitions, of course, have been largely accepted in film theory and have in no way been held contestable. What has been questioned in modern film theory is whether the articulation of space as part of film language signifies, how meaning is created and communicated, and by whom. For instance, a number of film theorists, such as David Bordwell, Noël Carroll, Edward Branigan, and Joseph Anderson, who comprise the North American cognitivist group, according to Buckland (2000, p. 2), “deliberately reject the basic doctrines of modern film theory (a.k.a. ‘contemporary’ film theory, based upon structuralist linguistics, semiotics, Marxism, and Psychoanalysis).” On the contrary, a group of film semioticians includes Francesco Casetti, Roger Odin, Michel Colin, and Dominique Chateau, who keep up working along Metz’s unfinished semiotic project “to understand how films can be understood.” They transcend the rigidity of Metz’s early structural semiotics, without necessarily rejecting linguistics, but they assimilate cognitive science into semiotics, giving contemporary film theory a renewed force and vigor. Buckland takes a stand in favor of the European cognitivist semioticians, because the kind of cognitive science they incorporate in film theory, basically the theories of George

Lakoff and Mark Johnson, enables him to develop a theory of cinematic perception, a theory that grounds perception in the physicality of the body (2000, p. 27).

The cognitivism of the Constructivist school of psychology, to which the North American film theorists subscribe, derives from a different philosophical tradition, the philosophy of the subject, which, following Descartes, separates the mind from the body. Bordwell, for instance, devises a cognitive theory of film comprehension, that has nothing to do with language and semiotics, and which is based on a number of schemata, that are “abstract, transcendental, static, top-down structures of the mind that organize perceptual input into coherent mental images” (2000, p. 29). Lakoff and Johnson’s cognitive science also depends on schemata, but they are “image-based, they are embodied and inherently meaningful (are constituted by the structure of the body) rather than being transcendental, are based on metaphor and metonymy, and are dynamic rather than static” (2000, p. 31). Their image-based schemata are not to be confused with mental images which usually point to some concrete representation; rather the emphasis is on “schema,” as they are considered “non-representational spatial structures; they delineate the abstract structure of images” (2000, p. 32). For Lakoff and Johnson, language and intersubjective sign systems are the foundations on which the faculty or reasoning depends, because language is already metaphorical and metonymic of nature. Language depends on prototype basic image-schemata, which derive from preconceptual bodily experience, and which through metaphor and metonymy develop into more complex and abstract conceptual levels during the procedure of reasoning. Here is how reason is defined by Lakoff in *Women, Fire and Other Dangerous Things* (1987, p. 368):

Reason is embodied in the sense that the very structures on which reason is based emerge from our bodily experiences. Reason is imaginative in the sense that it makes use of metonymies, metaphors, and a wide variety of image schemas.

On the basis of some of Lakoff’s and Johnson’s kinesthetic image-schemata (such as the container schema, up–down, center–periphery, part–whole, inside–outside, paths, links, etc.), schemata that are directly constrained by the human body, Buckland proposes the development of a cognitive semantic theory of film, by metaphorically mapping these notions to some of the most problematic areas in film theory: frame, screen, narrative structure, suture, and the process of subject positioning. Thanks to the metaphorical projection of these fundamental kinesthetic image-schemata onto the conceptual structure of film comprehension we can arrive in a more radical theory of perception: “Perception is not a process that only involves a relation between the eye and the mind (whether conscious or unconscious); more fundamentally, it involves the metaphorical projection of the body on screen and in frame” (2000, p. 51).

Endorsing Buckland’s cognitive theory of film semiotics, I would like to take it a few steps further in terms of image perception and narrative comprehension within a communication model. Some of Lakoff’s and Johnson’s kinesthetic image-schemata, especially the container and the inside–outside schemata, would be handy at first to contextualize the discussion on perception and image aesthetics. To establish the communication model, a reexamination of the seven levels of cinematic reality

introduced by Souriau (1951) will be in order. Thus, the aesthetic factors involved in image composition will be examined, as offering a system of aesthetic codes equally shared by both creator and recipient of the film images. The final aim of the project is an approach to aesthetic codes as part of a semiotic system of signification, that helps explain how cinematic language works as narrative communication. But the task in this chapter is limited to a discussion of the aesthetics of the film frame and *mise-en-scène* and the reality of the spectator's perception.

51.2 Semantic and Pragmatic Limits of the Film Frame

What is called film space may have different interpretations depending on which aspect of the whole production procedure of a film we focus on. Thus, the categorization of film reality into seven distinct and different levels by Etienne Souriau in 1951 (also cited by Buckland 2000, p. 47), analyzed through the container and the in–out schemata, is bound to yield a conception of the different states of being for film from the moment of conception to the time of its consumption. It will also help make apparent the notion of film as a medium of communication. These are the seven reality stages of film:

1. Afilmic reality (the reality that exists independently of filmic reality)
2. Profilmic reality (the reality photographed by the camera)
3. Filmographic reality (the film as physical object, structured by techniques such as montage)
4. Screenic (or filmophanic) reality (the film as projected on a screen)
5. Diegetic reality (the fictional story world created by the film)
6. Spectatorial reality (the spectators perception and comprehension of film)
7. Creational reality (the filmmaker's intentions)¹

The first and the second type of film reality could best be understood through the image-schemata “in–out” and “part–whole.” On the one hand, the world out there, what we call external to an individual's body reality that can be experienced through the body senses, exists autonomously, independent from our intension to represent it through art or not. Potentially, however, it is offered, in the case of cinema, for a filmic representation. Afilmic and profilmic reality, therefore, are taken to be part of the preproduction stage of a movie production, during which the filmmaker will choose a *part* from the *whole* of the visual world to be captured on film. Only a portion of the outside world will be taken *in*, so as to become part of the film, while the rest of the space will be left *out*. By applying the image-schemata part–whole and in–out, we readily understand this division between external space and the space that will enter the film body, precisely because we use the human body as the limit between internal and external space.

¹ For the ensuing discussion of these categories, I am indebted to Warren Buckland (2000, pp. 47–49).

In this preproduction stage of film design, these first two levels of reality will be conceived of as staying outside the film text, since the film has yet to be made. The three next levels of film reality, 3, 4 and 5, will be taken to comprise together the body of the filmic text, but each offers a different kind of experience. We can best understand the difference between them by applying the “container” image-schema. According to the container schema, filmographic reality contains screenic or filmophanic reality, which in turn contains diegetic reality. The difference between filmographic and screenic reality is not to be explained in semantic terms, as both practically contain the same content: the same filmic material, captured on the surface of celluloid, will then be projected on a screen. Rather the distinction between the two is a matter of pragmatics, since both filmographic and screenic realities designate different conditions for human experience. In the first case, we come in touch with the physical material of film, when we hold a piece of celluloid in our hands, and we can then examine the individual frames of which the film consists. The film, as a physical object of celluloid resting in its box, is the vessel, a *container* of the aesthetic object that we later appreciate when projected. But as it lies there in the box, it is a text in a state of readiness: it is ready for use. Unlike other artifacts, though, such as a book, or a painting, film depends on a more complex technology, that requires projection on a screen, if it wants to be a text in use. Screenic or filmophanic reality then signals a totally different experience, when the film text is really put to use and real communication between the creator and the recipient of the text's message is finally effected.

Also the experience of the two realities is qualitatively different. We relate to the tiny space of the flat celluloid surface of a frame when holding it in our hands, as we do with photographs. They are both visual texts to be contemplated at our ease. But when the same film is projected, its images become live, due to movement (both of the projector and of the images themselves). The images are no longer static, as in still photographs; they become dynamic, so they attract immediately our attention to the point that we forget the frame that defines them (the screen border, as well the darkness of the auditorium (Aumont et al. (1983/1992, p. 13)). Besides, on the flat surface of a celluloid piece, both the visual and the audio content of the film are contained (though our scrutiny is restricted to the visual), whereas in screenic reality, screen space contains the visual element, but the audio is diffused from the speakers in the theater space; the sound comes from a variety of sources dispersed in space. Recalling again the container image-schema, the theater auditorium is a larger *container*, including not only the screen space but also the sound and the audience. Moreover, we have as much time as we want to contemplate the individual frames on celluloid, but when the film is projected, we are at the mercy of the projectionist. The rhythm of the flow of images on the screen is too fast to allow us to muse over them. Of course, this holds true only for the original theatrical experience, because films played on home appliances allow the spectator to gain control over projection with the use of a pause button on the remote control.

Finally, reality stage 5, called diegetic, is contained by screenic or filmophanic reality. The frame borders, which during projection coincide with the screen borders, form the limits between on-screen and offscreen space and denote the dif-

ference between the fictional world of the text and the natural world outside it. The difference here is deemed an ontological one, as any physical transgression between these two domains is impossible. As physical beings, we cannot cross over to the fictional world of the story presented on the flat surface of the screen, and the same holds true for the characters and other existents populating the world of fiction. It is an autonomous realm, with its own separate reality, defined by its own space and time boundaries, and governed by the rules or conventions of fiction. There are filmmakers who have made some playful metafictional comments on the impossibility of crossing the ontological divide between fiction and external reality: Jean-Luc Godard in *Les carabiniers* (1963) showed some characters climbing on the screen in an attempt to enter the world projected on screen; Woody Allen in *The Purple Rose of Cairo* (1985) had actually a character from the black-and-white film-within-the-film world (also entitled “The Purple Rose of Cairo”) enter the (still fictional) domain of the main film shown in color, fall in love with the Mia Farrow character and, at some point, take her with him back to his world.

The next two reality stages (6 and 7) are cognitive in nature, as they presuppose mental processes involved in perception and in imagination for filmic comprehension on the spectator’s part, and conception/construction of filmic meaning on the filmmaker’s part. Souriau’s conception of a seven-tier cinematic reality is great help for the development of a film theory that examines the film text both as a structure and as a process. Because from the above analysis of the seven film realities (with the aid of some kinesthetic image-schemata borrowed from cognitive science), we have come to envisage the entire procedure in moviemaking, that is, from conception and design to the actual production and the final projection and consumption of the film product. It is remarkable that at each stage, film reveals a different type of reality, whereby our relation with it yields different experiences. One immediately notices then, that local-problem film theories, that is, theories that focus on one aspect of film’s seven realities, appear to be not satisfying enough, as they have very little or nothing to say about the other realities. For example, David Bordwell’s *Narration in the Fiction Film* (1985) is a cognitive film comprehension theory, privileging the spectator’s eye and mind (though excluding the body). The spectator is bound to come across the narrative gaps in a text (which as a rule serve the economy of the narrative) and based on some abstract schemata, e.g., “cause–effect,” fills those gaps with his/her mind, and makes the appropriate associations among the narrative events, so that narrative meaning is reached and the story is completed. As convincing and, for that reason, as appealing a theory can be, it is bound to be limited to the extraction of literal meaning only, giving not much help for the function of more elaborate rhetorical figures, such as metaphor and metonymy; but, especially, since it lays so much emphasis on the role of the spectator, as the sole creator of textual meaning, it has not much to offer for other textual relationships, e.g., the author–text relationship. Bordwell’s cognitive model leads him to reject the communication model. As Buckland observes (2000, p. 32), “Bordwell argues that narration ‘presupposes a receiver, but not any sender, of a message’.”

On the contrary, the analysis of the seven film realities has shown, among other things, that film can be examined as a mass communication medium. Without any

intention to downgrade the spectator's important role, as an active participant in any narrative situation, it is nonetheless imperative to account also for the role of the creator of the text, as an equal participant in the narrative situation. I prefer to hold the pragmatic position that texts do not come into existence by themselves; someone is responsible for their conception and execution; someone is responsible for their structure and their style, and someone who imbues them with narrative meaning and offers them to the public for their enjoyment, education, or entertainment. So before we employ a theory of perception and film aesthetics, we should incorporate cognitive semiotics and the theory of narrative fiction within the communication model. In the case of cinema, accepting the seven film realities could give a head start to the argument.

As for the issue of "organization and experience of space," stated in the introduction above as being of immediate concern in this chapter, implicit in the theoretical context explained so far is the intension to review film aesthetics through cognitive semiotics from *both* perspectives: that of the image maker, and that of the spectator. Despite the fact that the mode of approach to the function of film language differs (a synthetic approach for the filmmaker, analytical for the spectator), the underlying argument is that they share the same aesthetic codes, either for the construction and building of screen space, or for the perception and aesthetic appreciation of it. In other words, I am going to argue that an assortment of aesthetic factors mobilized in image composition by the image maker for the construction of space are the same factors responsible for aiding in the spectator's perception and comprehension of the intended import of film images. They become the means for a (semantic or cognitive) semiotic system of narrative communication.

But before I get into the discussion of film aesthetics, let us consider the views in earlier film theory of how images signify. Jean Mitry (1963/1998, p. 39) has pointed out that, if we take an individual film frame which shows the image of an object, that image does not signify anything beyond the object itself. He explains:

The image of an object is identical to the object, to the extent that it establishes the existence of that object. The image thereby signifies what the object has power to signify. But as an image, that is, as a "representation"—by its very nature as an image—it signifies nothing. It *reveals*, that is all. ((1963/1998, p. 39) emphasis his)

To make this idea clear, I will invoke a couple of his examples. Let us say that an individual frame shows the image of an ashtray full of cigarette butts. The object of this image signifies what the image shows: an ashtray full of cigarette butts. Mitry also brings as an example the kind of pince-nez spectacles worn by Dr. Smirnov in S. Eisenstein's *Battleship Potemkin* (*Bronenosets Potyomkin* (1925)): When taken out of context, shown in close-up, an image of a pair of pince-nez glasses dangling from a docking rope of the ship means nothing beyond what it reveals. But images gain extra meaning when associated with other images that went before or after in the sequence, since images are moving in the cinema. In previous shots, this particular pair of spectacles was shown to belong to the ship's doctor, who used them to inspect the worms in the rotten meat that was to be part of the crew's meal. So the pince-nez was associated with a distinguished member of the bourgeoisie. And

when later in the sequence, in the ensuing mutiny, the doctor, along with the other officers, was thrown into the sea, the pince-nez assumed special meaning, becoming a sign of the downfall of the ruling class, “thrown overboard.” Cinematic expression, then, becomes richer not by depending on the denotative level of its images, but by relying on their connotation, the additional meaning they accumulate through the use of rhetorical devices, such as the metonymy in this case. The pince-nez “signifies” by virtue of the association made between a part (the stupid pince-nez dangling on a rope) and the whole (a class of people for which it stands as a symbol of). But such a meaning is potent only when the images are used in their narrative context. The particular meaning of the object in question is by no means an inherent one: It does not mean that every time we see a pair of pince-nez glasses it will mean bourgeoisie’s downfall. Further in the same film, in the famous Odessa Steps sequence, a woman wearing the same type of pince-nez glasses is also associated with the middle class (she is a teacher). In the particular episode, she plays the leader to a group of hapless individuals gathering around her in an attempt to talk some sense to the advancing Cossacks and plead them to stop the massacre of innocent people. In one frame, the face of the woman with the pince-nez is shown in full apprehension; in the next frame, her pince-nez appears shattered, blood trickling from her eye, as a result of a mighty hit by a Cossack’s saber. Now the meaning of the object is different, signifying that not only the simple people but also members of the middle class cannot escape from the wrath of a ruthless czar.

So we have seen how individual images can assume additional (connotative) meaning through association and how they can work then as signs with a symbolic meaning. However, on the basis of Peirce’s (1931–35. CP 2, pp. 277–299) notion of the tripartite properties of an image (icon, index, symbol), I would like to explore the case where images still have some additional meaning, even if there are not any overt contextual associations made. Let us revert to the previous example of the ashtray. Is there some additional meaning to the object of the image apart from its obvious iconic property (its denotation)? During the process of image composition, an image maker is bound to make some aesthetic choices in filling that framed space. In the particular image, the choice made had to do with the quantity of cigarette butts. The ashtray appears to be *full* of cigarette butts. So, besides the obvious meaning, this image carries an additional indexical meaning. Too many cigarette butts are seen as an index of the passage of time: so this image also states that someone or perhaps a number of people spent some time in this room around the ashtray. In aesthetic terms, then, this particular object functions as a time vector.

In the rest of the chapter I intend to concentrate on the function of aesthetic factors, especially in the ways that they can affect the denotative meaning of images. Herbert Zettl in his book *Sight, Sound, Motion: Applied Media Aesthetics* (1973/1990) tabulates a large number of aesthetic factors that are involved in image composition and the structuring of visual space. It is stated in advance that aesthetically coded images find application in all kinds of visual media (not only in film), and that the meaning gained always depends on the context in which the images are placed. Zettl has obviously been influenced by the school of Gestalt psychology theories, especially by Rudolf Arnheim’s (1966, 1969) theory of perception and the

psychology of art theory. Arnheim has stated: "My earlier works have taught me that artistic activity is a form of reasoning, in which perceiving and thinking are indivisibly intertwined. A person who paints, writes, composes or dances, I feel compelled to say, thinks with his senses" (1969, p. 11). It is no coincidence that Mark Johnson (1987, pp.23-37), on whose theory the European cognitivist semioticians depend, refers straight to Arnheim in order to claim that, images, not words, form the basis for thinking and that language does not precede perception. The very notion of the image-schema "container," which Lakoff and Johnson use as a conceptual cognitive model, derives from Arnheim's Gestalt psychology theory expressed in his *Visual Thinking* (1969, p. 173). I put forward the idea that it will be quite interesting to see how several of Lakoff's and Johnson's (1980) kinesthetic image-schemata, based on preconceptual embodied experience, and being proposed as conceptual cognitive models—as the "metaphors we live by" (to use the title of their book)—apply to the aesthetic principles and rules described by Zettl. In this light, we review the impact of aesthetics on the spectator's perception and thought. Zettl devises two categories of aesthetic factors: the first concerns the two-dimensional visual field; the second the three-dimensional, when film images acquire the feeling of "relief," suggested by perspective and depth of field. We will concentrate on some aesthetic factors selectively, having in mind some image-schemata like in-out, up-down, front-back, left-right, center-periphery, part-whole, course, path, and the container schema.

51.3 Aesthetic Factors in the Two-Dimensional Field

51.3.1 *Area Orientation: External and Internal Orientation*

Zettl refers to the function of the film frame whose borders actually define the visual space of the screen, the area that draws the attention of the spectator, as the rest of the space in a film auditorium is covered by darkness. The frame borders provide the limits of the on-screen space and exclude everything else in the physical world, what we have defined as offscreen space. From the cognitive science point of view, the spectator's perception is facilitated here through the container image-schema, or the notion of inside-outside. The boxlike shape of the rectangular screen boundaries separates the image included inside from everything else belonging to the outside, external physical world. But also, the screen frame defines the content of the image. This becomes clearer if we consider the visual field in sibling art forms: A painter, for instance, has the liberty to frame his painting in a horizontal orientation, if his subject is a landscape, or in a vertical orientation to include a portrait. In fact, one can choose any shape suitable for his representation, be it a square, an oval, etc. A filmmaker (or a television producer) cannot take such liberties, as the dimensions of a film (or television) screen are fixed and standardized in an aspect ratio of 3:4 (1.33:1). Although this aspect ratio has grown over the years (1.85:1 or larger; 16:9 for the new TV sets), the screen still retains its horizontal orientation, whereby its

width is greater than its height. To offset this disadvantage, filmmakers have sought other means (internal) to help the spectator's orientation in the visual field. They do so by creating an internal frame within the film frame by means of a mask, an iris, by controlling the patterns of light and shadow, even by creating a split screen or multiple images within the frame. With such aesthetic choices, the film image maker (or the television image maker) aims to guide the viewer's perception to a screen area that is more important.

51.3.2 Size of Objects and Size Constancy

Another aesthetic factor concerns the presentation and perception of objects in an image of the film frame. Perception in this case is subject to the size constancy principle. According to this principle, the enormous head of an actor appearing in close-up on the screen is not taken to be the face of a giant, nor are the miniscule figures, shown in an extreme long shot, taken to be the bodies of dwarves. The size constancy principle derives from the way we use our senses to judge the size of objects in real life, based on the image-schema of "far–near" in relation to our body. Then this feeling is metaphorically mapped onto the objects represented on screen to assess their size. The film frame, besides, plays a crucial role in this procedure. Let us imagine we have a single object in a screen image, of a circular shape, say a disc. The disc may appear big in size, if the distance of its perimeter to the sides of the frame is small. If the distance grows larger, the object will appear to be smaller. To avoid confusion as to the real size of an object on the screen, some kind of reference may be added to the contents of the frame. Again the human body is the universal means of reference for the size of objects. If the abovementioned disc is placed in the palm of a hand, we will immediately know about its real size. In a sequence of Alfred Hitchcock's *North by Northwest* (1959), there appear the heads of four American presidents, engraved in sculpted form on Mount Rushmore in South Dakota. At first, spectators do not have a clue about the actual size of those sculptures. But as soon as the silhouetted figures of Cary Grant and Eva Marie Saint make their appearance on top of them, they do realize their enormity.

51.3.3 Field Forces Within the Screen

Zettl mentions six basic subcategories of the field forces that operate aesthetically within the film frame. The screen borders work as a kind of spatial frame of reference for the events happening in the visual field. It would be fair to say that these aesthetic field forces actually facilitate the spectator's gaze to focus on those areas, parts or points of visual space that are more important for narrative purposes. Comments will be made on some of them selectively, beginning with main field forces.

51.3.4 Main Field Forces (*Horizontal, Vertical, Diagonal*)

With these terms, a particular image composition is suggested, which is dominated either by horizontal lines, vertical lines, even diagonal lines, or combinations of them. When emphasis is given to horizontal lines, so that they dominate the entire composition, the spectator's perception is affected to the effect that one has (sub-consciously) feelings of stability, calm, and peace. On the contrary, when vertical lines dominate, the screen image gains more visual energy. Feelings of power, excitement, but also of authority and formality are suggested. An image becomes even more dynamic, when diagonal lines dominate the composition, suggesting an even higher energy level, greater excitement, even danger. Some examples from actual films may be illuminating.

In Nikita Mikhalkov's *Burnt by the Sun (Utomlyonnye solntsem)* 1994, the protagonist Colonel Kotov has some moments of relaxation with his daughter on a small riverboat nearby their *dacha*. He does not have to row, as the boat moves languidly by the mild river current. As this is shown in a long shot, we can observe in the foreground green pastures with wild flowers, while the background is dotted with groups of trees, and in the far background, one can see some obscure hills, with no apparent edges. The banks of the river together with the rest of the environment suggest a horizontal orientation in the image composition. Even the waters of the river, some running faster, where the current is stronger, others appearing totally still, create horizontal patterns, as viewed from the distance. So the whole shot suggests feelings of normalcy, calm, and relaxation, enjoyed by the characters, but at the same time shared by the spectators.

On the contrary, in Peter Greenaway's *Belly of an Architect* (1987), there is a scene in the Vittoriano, a famous building in Rome, built in the baroque style with huge Doric columns dominating the composition. In an open-air hall, the major characters of the film are gathered around the protagonist Stourley Kracklite (Brian Dennehy) on a lunch table. Behind them two huge columns dominate the composition, while through the columns parts of the city of Rome are visible. The Vittoriano functions as the headquarters for the club of Italian architects, headed by architect Kracklite, who tries to set up an architectural exhibition. This kind of composition, with the verticals dominating, suggests an air of grandeur, authority, and formality, enhanced by the pompous baroque music (mainly deep brass notes).

An even more telling example is given by the shots of the various aspects of Xanadu, the mansion built by Charles Foster Kane in *Citizen Kane* (1941). Orson Welles had deliberately placed the camera at a very oblique angle, so that the buildings were shot from below, accentuating even more the vertical composition with diagonal lines. Greater dynamism and authority are created, that reflect on the grandeur of the palace's owner, who on the audio band is named by the narrator as "America's Kublai Khan."

Conclusively, the particular feelings created during the perception of these aesthetic forces can find an explanation in the way we perceive objects in our environment in relation to our body. We are used to watching things around us, standing on

our feet, with our eyes placed one beside the other. As Zettl (1973, p. 100) points out, “we live and operate basically on a horizontal plane. When we talk, we usually stand next to, rather than on top of each other. A distance of two hundred miles is nothing unusual to us; a height of two hundred miles is another story. A six-hundred-foot-high tower is an adventure; a six-hundred-foot-long building is simply large.”

We best understand how much we are used to operating on a horizontal plane, when the horizon line is tilted. For instance, when traveling on a plane and it takes a sudden nosedive or a sudden turn of the wing, we then feel a great deal of disorientation, a tight knot in the stomach, even nausea. A tilting of the horizon plane represented on the screen creates the same effects. Brian De Palma used it in his *Body Double* (1984), in the scene where the protagonist, suffering from claustrophobia, stops chasing a thief, as soon as they enter a tunnel. In the particular shot, De Palma uses another aesthetic factor listed by Zettl, “magnetism of the frame,” when the protagonist’s body is depicted against the wall, gasping for breath, and the sides and corners of the frame seem to “pull” him towards the edges, suggesting this feeling of discomfort. On top of that, he also tilts the horizon plane, while the camera zooms in and out on the thief, who has stopped running, seeing that his pursuer is totally incapacitated. The tilting of the horizon plane intensifies further the protagonist’s feeling of suffocation, and in this way, the spectator is made to share these feelings. Gaspar Noé, also, has managed to create utmost discomfort and nausea in the beginning of *Irréversible* (2004), when the opening credits start tilting, and then a rolling camera shows the first images of the film upside down.

The fact that we use our body for optical orientation has been pointed out by Bühler in 1930 (as cited by Buckland (2000, pp. 69–70)). Bühler (1990, p. 145) developed a situation model of action, aiming to study “the meaningful behavior of the living being.” He brought as an example a visitor to a foreign city, who needs to orient himself/herself in the new environment. On such occasions, it is very likely for someone to use “deictic” phrases like “here–there, left–right, up–down,” but probably due to language barriers, one is bound to use extra lingual means of communication too, such as pointing with the finger, nodding, etc.; in other words, using the physical, or bodily means of “deixis,” in an effort to create a mental map of the foreign environment. Bühler is quoted when emphasizing on the role of the individual’s body: “When [a] person uses words like in *front-behind, right-left, above-below*, [a] fact becomes apparent, namely, the fact that he *senses his body*, too, in relation to his optical orientation, and employs it to point. His (conscious, experienced) *tactile body image* has a position in relation to visual space.” (emphasis in the original). And Buckland (2000, p. 70) aptly adds the comment that “Bühler had anticipated the work of George Lakoff and other cognitive semanticists by fifty years.”

Of the other aesthetic forces included in Zettl’s list (magnetism of the frame and attraction of mass, asymmetry of the screen, figure-ground relationships, psychological closure, and vectors,) I focus on the last three, as the most important ones.

51.3.5 *Figure–Ground Relationships*

We tend to distinguish the bodies of characters and the objects in film images by virtue of the outline of their shapes. But a background is necessary for the outlines to stand out. So according to Zettl (1973, p. 130), there are certain characteristics that define these two notions of “figure” and “ground.” A figure is thinglike. The ground is not. The lines delineating the shape of figures seem to belong to figures, not to the ground. A figure is movable, but the ground is steady. The ground seems to continue behind the figure. These figure–ground relationships are always operative, not only in visual representations but also in everyday life experiences, and are so much self-evident that we seldom take notice of them. But they become obvious in the case of the so-called magic images. For most people are very likely to have come across the famous image showing a white vase against a black background. But in the same image, one can alternately discern two black faces in profile, while the space between them is white. Ambiguous images like that, which seem to have two denotations, result from the reversal of the figure–ground relationship. The vase becomes the figure against the black surface of the ground. Then the two profiles assume the traits of the figure against a white background. The figure–ground reversal has been profitably used in movie production. Instead of shooting, say a car, out in the streets, you keep it stationary in the studio and you film a background of moving images shown in rear projection. The spectator in the theater will take the car as moving, because the ground is by principle considered stable. In this way, the production cost of shooting in the studio will be kept low.

51.3.6 *Psychological Closure*

The tendency inherent in us to fill in missing information in a vague, ambiguous, incomplete visual representation is called psychological closure. We tend to gather visual clues together until a mentally manageable pattern is formed. This new structure that is created through psychological closure is called a gestalt image. (In German, *gestalt* stands for form, configuration, shape.) “A gestalt is not simply the sum of its elements, but more so. It consumes its elements into a larger whole” (Zettl 1973, p. 135). In the example mentioned above, of the woman with the pince-nez in the Odessa Steps sequence, in Eisenstein’s *Battleship Potemkin*, the spectator applies psychological closure to fill the narrative gap of the actual hit of the saber. In the first image, we see the face of the teacher with the pince-nez spectacles intact. In the next, the glasses are shattered and her left eye is wounded. So it is the spectator’s task to supply the missing narrative information. When faced with an abstract painting, where there is no discernible shape, the viewer will most likely try to gather the disparate pictorial elements into simple meaningful shapes (such as circles, triangles, squares) in order to reach a satisfactory shape. (Most abstract paintings resist the formation of a gestalt image, though.) Gestalt psychologists have set up three principles in the application of psychological closure: proximity, similarity,

and continuity. All three have again much to do with human bodily experience. It is interesting how much Lakoff's and Johnson's cognitive semantics have been influenced by Gestalt psychology. After all, a definite parallel can be observed between their kinesthetic image-schemata and the minimalist meaningful shapes (of circles or triangles) in psychological closure.

51.3.7 *Vectors*

Finally, vectors constitute the most important aesthetic factor in the perception of film images. As one of the basic field forces, vectors have clearly a *deictic* capacity. Their aesthetic function is to guide the viewer's gaze from one point of the visual field to another, but also outside the frame, and even to extend the gaze to subsequent frames. According to Zettl (1973, p. 140), there are three types of vectors: graphic vectors, index vectors, and motion vectors. They have a direction and a magnitude. Motion vectors have a stronger directional force, than index vectors, which in turn are stronger than graphic vectors. The term graphic vector refers to all those stationary elements in a picture (usually the outlines of objects' shapes) that lead the eye to certain directions. They perform an essential role in the creation of those simple visual patterns that assist in the comprehension of an image. Index vectors are probably more important, as they suit better the expressive means of cinematic apparatus. Index vectors are defined as those field forces that definitely point in a particular direction, pretty much in the way certain road signs signify. The face of a person looking in a particular direction, either on-screen or offscreen, works as an index vector. Motion vectors, moreover, have an even greater directional force, as more powerful means of attracting the spectator's attention, exactly as in real-life experience, whereby we do take notice readily of any object moving or appearing to be moving. When their movement has a direction outside the frame, the movement seems to continue in the ensuing frames, or shots. They are essential for denoting the continuity of action on the film's stylistic level. From a cognitive point of view, the function of these aesthetic forces seems to be based on the image-schema of "path," or "course," which in turn is patterned on the preconceptual experience of the moving human body from point to point in its natural environment. All kinds of vectors can be seen as working together, creating aesthetic vector fields that help define the relationships of objects with the frame, as well the relationships between the objects themselves. However, far more important to film aesthetics is the function of index and motion vectors, for defining the relationships between on-screen and offscreen space, especially as far as textual narration is concerned. As Monaco (1977, p. 136) has commented:

Cinema is an art and a medium of extensions and indexes. Much of the meaning comes not from what we see (or hear) but from what we don't see, or more accurately, from an ongoing process of comparison of what we see and what we don't see. This is ironic, considering that cinema at first glance seems to be an art that is all too evident, one that is often criticized "for leaning nothing to the imagination."

51.4 Conclusion

From the discussion so far of the ways in which aesthetic factors affect the spectator's perception and comprehension of images within the film frame, we can draw the following points:

1. The context in which aesthetic factors were analyzed was primarily that regarding the relationship between spectator and the text and therefore was referring mostly to experiences of the sixth type of filmic reality, the reality of the spectator. However, the communicative theoretical model proposed does make allowances to view the aesthetic factors from the perspective of the creator, as well. In fact, in the design of this project, provision is made to analyze other basic cinematic characteristics, such as *mise-en-scène*, or montage, where an examination of aesthetics from the perspective of the filmmaker will be necessary. Besides, one of the project's aims is to explain that the same aesthetic codes are recognized by both sender and recipient of the narrative message, and thus, they become part of the film's signification system. Thus, semiotics, incorporating the findings of cognitive science, can enter the game of basic film theory again and help explain "to understand how cinema can be understood."
2. In the analysis of the aesthetic factors, great emphasis was laid on the psychology of perception, especially through the theory of the Gestalt school which has great affinity with Lakoff's and Johnson's cognitive semantics theory. According to Gestalt theory, both perception and thought are inseparably connected. Similarly, the kinesthetic image-schemata of Lakoff's and Johnson's cognitive models, that derive from prior bodily experience, reveal that reasoning depends on images, not words, and perception precedes language. Consequently, using the image-schemata in the examination of how the aesthetic factors operate in image composition has revealed that aesthetics is the means to explain both how film space is constructed and perceived for better film comprehension.

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Michalis Kokonis is currently professor in the School of English, at Aristotle University of Thessaloniki, Greece. He has been offering courses in contemporary American fiction and cinema/cultural studies. His research focuses on issues of narratology in cinema and the novel within a cultural studies framework. He has published articles, essays, and monographs on literary and film theory and criticism, on semiotics, as well as on cultural studies. His most recent publications include a collective volume (in Greek) *Digital Media: The Culture of Sound and Spectacle*, Kritiki publications (2010), to which he has contributed a chapter on the video game culture; also he is the editor of two book translations of film theory, Robert Ray's *A Certain Tendency of Hollywood Cinema, 1930–1980*, and Thomas Schatz's *Hollywood Film Genres* (both published by University Studio Press, 2011 and 2013, respectively). His most recent peer-reviewed article on computer game studies entitled "The Reader as Author and the Ontological Divide: Rome Total War™ and the Semiotic Process" has been published in *Gamma: A Journal of Theory and Criticism* (School of English, Aristotle University 2014).

Chapter 52

Semiosis: The Dialectics of Cognition

Maria Isabel Aldinhas Ferreira

52.1 *Umwelt* and *Innenwelt*: The Subjectivity of Experience

Cognition is the embodied, embedded and always situated process whereby life forms become viable and effective in their specific environments. Semiosis, the dialectic relationship that binds the organism and its surrounding world stands at the core of all forms of cognition defining the identity, cohesion and sustainability of individual microcosms. This dialectic relationship involves a cognitive entity endowed with a particular physical architecture interacting with the specific world it is immersed in, producing a semiosis that, according to the observer, defines events anchored in space/time, structuring and giving substance to the entity's developmental and evolutive narrative. This always open-ended narrative will guide the organism's innate capacity to adequately respond to typical environmental features or its capacity of adjusting or readjusting its behaviour in order to cope with possible variations.

Uexküll (1909) highlighted the fundamental role played by the physical architecture of the organism in the definition of the organism's world. He believed that access to the different worlds of organisms could only be reached through the study of their specific organisation. This access demanded, according to Uexküll, that we submerge ourselves in the anatomical structure responsible for defining the way it interacts with the external world and, at the same time, that we make as clear as possible the extent of the achievements that this structure brings about, in order to define the field of its existence and its activities.

In the introduction to "Umwelt und Innenwelt der Tiere", the author invites the reader to an imaginary stroll (1934, p. 5):

[...] a stroll into unfamiliar worlds; worlds strange to us but known to other creatures, manifold and varied as the animals themselves. The best time to set out on such an adventure is

M. I. A. Ferreira (✉)

Centre of Philosophy of the University of Lisbon, University of Lisbon, Lisbon, Portugal
e-mail: aldinhasferreira@gmail.com

on a sunny day. The place, a flower-strewn meadow, humming with insects fluttering with butterflies. Here we may glimpse the worlds of the lowly dwellers of the meadow. To do so, we must first blow, in fancy, a soap bubble around each creature to represent its own world, filled with the perceptions which it alone knows. When we ourselves then step into one of these bubbles, the familiar meadow is transformed. Many of its colourful features disappear, others no longer belong together but appear in new relationships. A new world comes into being. Through the bubble we see the world of the burrowing worm, of the butterfly, or of the field mouse; the world as it appears to the animals themselves, not as it appears to us.

Uexküll points out how a specific environment is individually appropriated and differently constructed by the plethora of organisms that coexist there.¹ The virtual sphere, the figurative perimeter, traced according to the nature of the organism's interactions with its surrounding environment, not only visualises the scope of these interactions but also defines in the general environment a subjective experience, the organism's *Umwelt*, i.e. its meaningful world.

If the *Umwelt* corresponds to the entity's particular view of the world, the *Innenwelt* can be said to be defined by the internal state(s) that characterize an entity's condition at a given time. Conceived by Uexküll as inherently systemic the concept of *Innenwelt* is essential to understand why specific environmental features emerge and get more salience compared to others. In fact, salience is determined by the organism's needs reflected in the states of its *Innenwelt*. These states will define the priorities of salience emergence in what concerns environmental features' prominence.

The transparency of the bubble allows us to be conscious of the specific nature of that sphere still retaining sight of the overall scenario, showing how the organism's world is in fact nested into a general environment where other "soap bubbles"—individual worlds—coexist.

It was not by chance that Uexküll chose a soap bubble as metaphor. The boundaries defined by soap bubbles are flexible allowing slight remoulding when parameters such as internal or external pressure, surface tension and temperature change. The flexibility of the soap bubble is consequently perfect to express the plasticity required by the dynamics of the relationship between the organism and its surrounding world.

On the other hand, the fact that soap bubbles are able to remain intact when touching each others' surfaces or eventually overlapping, defining pairs or small clusters, visualises the way distinct microcosms—different *Umwelten*—do not totally independently coexist but frequently crisscross or even partly overlap (Ferreira 2013) (Fig. 52.1).

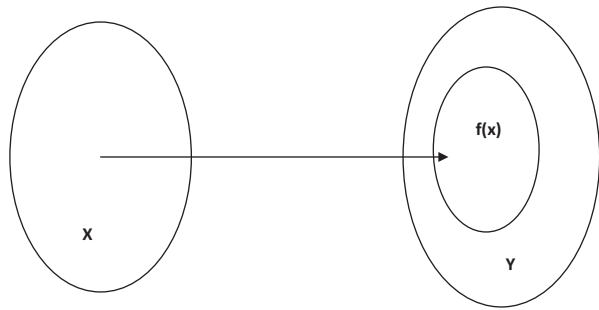
The semiotic process that binds an organism to its surrounding environment into an exclusive dialectic relationship guarantees the integrity and cohesion of the *Umwelt*.

¹ The Gibsonian tradition uses identical imagery to introduce the concept of "affordance".

Fig. 52.1 Like soap bubbles, *Umwelten* crisscross, partly overlap, nearly merge



Fig. 52.2 A meaningful feature corresponds to the value assumed by $f(x)$ in the codomain Y



52.2 Meaning as Value

Placing the dialectics defined by the interaction organism/environment at the core of his research, Uexküll highlights relationships and phenomena that were previously not fully appreciated. One of the strong consequences of this fundamental Kantian epistemological turning point is a new and comprehensive way of conceiving meaning.

As posited by Ferreira (2007, 2010), independently of the type of cognition or the level of semiotic complexity involved, meaning is always a value—a structured entity. This value is assigned by the cognitive agent to particular environmental features that, because of the existential needs imposed by the agent's physical nature, emerge in the environment as salient.

The definition of the entity's meaningful world in the surrounding environment is translated by the formula below (Ferreira 2011):

Let X be the set of all possible cognitive agents endowed with a specific architecture (domain X) and be Y the set of all possible environmental features (codomain Y); then the entity's meaningful world could be translated as $f(x) \subseteq Y$.

In the diagram (Fig. 52.2), the oval on the left represents the set of all cognitive agents endowed with a particular physical architecture $\{X\}$, while the oval on the right represents the set of all possible environmental features $\{Y\}$. f is a function from domain X to codomain Y ; the small oval stands for the image of f , i.e. the set

of all possible outputs obtained when the function is evaluated at each element of the subset. In other words, the smaller oval represents the set of all possible meaningful features for \mathbf{X} in the codomain \mathbf{Y} .

Different cognitive agents will interact differently with the surrounding environment. Their specific existential needs will determine the definition of the entity's meaningful world—the *Umwelt*. Salience and consequently meaningfulness depend on acts of interpretation carried out by specific cognitive agents. We are not sensible to stimuli that drive, for instance, bats or spiders. Though we share the same planet their world is not obviously ours (Ferreira 2007).

52.3 A Developmental and Evolutive Narrative

The dual role played by the sensory apparatus, working on one hand as a window that opens to the external world and on the other as a wall that closes it off, is stressed by Cassirer (1996). He claims that whatever is alive has its own circle of action for which it is there and which is there “for” it, both as a wall that closes it off and as a viewpoint that it holds “open” for the world.

It is the organism's sensitivity to specific features² that allows for their identification in the surrounding environment. But as Cassirer (1996) points out, this “seeability” is neither a predicate attributed to things as such, as absolute things, nor does it consist in the simple passive possession of certain sense-data, certain optical sensations or perceptions. It is in fact the result of an active process of interpretation led by the cognitive agent.

Every species has a typical evolved architecture, the phenotypic structure, which is the joint product of its genes and the environmental variations the organism had to face during its evolutionary history. This architecture embodies vital information concerning the forms of interaction available for a specific life form. As a consequence all life forms are naturally endowed with systems perfectly capable of identifying specific environmental features i.e. capable of interpreting environmental influx in a particular way.

On this account Varela (1992) refers:

The nature of the environment [...] acquires a curious status: it is that which lends itself (es lehnt sich an...) to a surplus of significance. Like jazz improvisation, environment provides the “excuse” for the neural “music” from the perspective of the cognitive system involved.

The capacity to identify specific environmental features springs out naturally whenever the organism interacts with environment, defining specific semiotic relations.

² The Gibsonian tradition (Gibson 1979) calls these environmental features “affordances”. These are the potentialities present in the surrounding environment to satisfy an organism's specific needs. For instance, the presence of a certain flower affords a small insect the possibility to rest and drink some of its nectar while the same flower affords a bird the chance to satisfy its hunger by eating insects. The perception of these affordances is maximized by the organism's urge to satisfy its needs.

That disposition seems to rest upon a significant degree of innate “knowledge”³—a “know how”, which all organisms possess, and which is, again, the result of the experience of biological predecessors and a consequence of their adaptive efforts to adequately respond to environmental conditions and changes. Based on the recurring properties of previous encounters, these architectures embody vital information concerning the typical environmental patterns the organism will have to face, guaranteeing this way the “know how” that guides all its actual interactions. This “know how” comprehends the capacity to identify and interpret specific environmental features triggering out the organism’s adequate response from a “pack” that is already pre-established.⁴ It is this “knowledge” that is simultaneously responsible for the organism’s total lack of awareness relatively to a multitude of other environmental features.

In this sense we can agree with Merleau-Ponty (1968) in that meaning exists at a pre-reflective level of existence. In fact there seems to be a primary, pre-ontological assignment of meaning, an assignment that is prior to any experience whatsoever and that enables to respond adequately to some environmental cues and to ignore others. This pre-objective understanding that seems to be built into all life forms is responsible for their functioning and determines the way they interact with the surrounding environment.

The existence of a degree of innateness in what relates cognition was already acknowledged by Kant (1996). Though he accepts, as defended by empiricists, that exposure and consequently interaction with the surrounding world, have a determinant role in the structuring of knowledge he goes further acknowledging innate capacities a fundamental role in the general process of cognition and in particularly in the definition of a specific image of the world:

There can be no doubt that all our knowledge begins with experience. For how should our faculty of knowledge be awakened into action did not objects affecting our senses partly of themselves produce representations, partly arouse the activity of our understanding to compare these representations, and, by combining or separating them, work up the raw material

³ In our opinion, the term “knowledge” designates information that is conceptually and propositionally structured. Consequently, we refer to the “know how” that is apparently embodied in the distinct organic architectures as “knowledge”.

⁴ This innate “knowledge” that is implicit in the way the organism interacts with environment, retrieving meaningful information and reacting accordingly, is also present in the way the various subsystems inside that organism are able to retrieve meaningful information and react, guaranteeing this way the normal functioning of the vital systems that regulate the entire organic machinery of the body. An example of what has just been said is the way homeostatic systems function. In fact, homeostatic systems require cell-to-cell communication via chemical messengers. The first step in the action of a chemical messenger is its binding to specific target-cell proteins known as receptors. These receptors are selective in what relates the type and number of chemical messengers. Although a chemical messenger (hormone, neurotransmitter, paracrine/autocrine agent, or plasma-membrane-bound messenger) may come into contact with many different cells, it influences only certain cells and not others as only certain cell types, frequently just one, possess the receptor required for the combination with a particular chemical messenger. The combination of chemical messenger and receptor initiates the events leading to the cell’s ultimate responses. Emmeche (2000) points out that the endosemiotic sign links can be analysed as causal links between the function parts that regulate the activity of the entire organism.

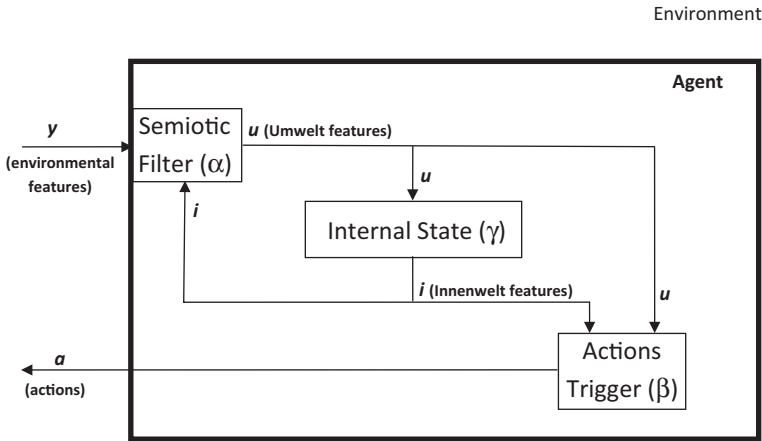


Fig. 52.3 Modelling the semiosis of cognition

of the sensible impressions into that knowledge of objects which is entitled experience? In the order of time, therefore, we have no knowledge antecedent to experience, and with experience all our knowledge begins. But though all our knowledge begins with experience, it does not follow that it all arises out of experience.

Natural systems are in a sense “prewired”. From micro level (cells) to macro level (complex organisms) every living entity is endowed with genetic information that guides the system throughout different developmental cycles and distinct environmental contexts. This embodied pre-experiential “knowledge,” this inherited memory, allows the mature system⁵ to identify and assign meaning to particular environmental cues exhibiting an adequate behaviour as response and satisfying this way the demands of its Innenwelt.

52.4 Modelling the Cognitive Process

The fundamental concepts of semiosis and Umwelt, Innenwelt are at the core of the mathematical modelling proposed by Ferreira and Caldas (2013). The model (Fig. 52.3) aims to capture the dynamics inherent to the semiosis that is inherent to all forms of cognition. Placing the fundamental “interpretative” process at the core of the model it highlights the essential role played by the meaning assigning process in the cognitive process and consequently in the production of intelligent behaviour.

⁵ Mature does not necessarily mean the final stage of a global development, but the system’s readiness to react at any particular phase.

In the diagram, \mathbf{y} is a vector of dimension⁶ $(N_y \times 1)$, which is assumed to represent all the potential information present in the general environment.

Acknowledging that not all environmental features will be perceived by the agent and that other features will have different importance at different times and within different contexts, the authors model the agent's perception of its environment (*Umwelt*) through an $(N_u \times 1)$ vector, \mathbf{u} . This vector is created from the environmental features vector, \mathbf{y} , through the application of a semiotic filter, \mathbf{F} , whose characteristics will be dependent on the agent's internal state (*Innenwelt*) represented through an $(N_i \times 1)$ vector, \mathbf{i} . The agent's particular view of the world—*Umwelt*—will then influence both its actions and consequent transition to a new internal state. This new internal state will, in turn, influence both the agent's actions and its semiotic filter, and, through it, its environmental perception. The vectors \mathbf{u} (*Umwelt*) and \mathbf{i} (*Innenwelt*) are, therefore, in a dialectic relationship and both of them are relevant in determining the agent's behaviour.

It is assumed there are N_a possible actions that can be executed by the agent and collect the respective probabilities of execution in a vector, \mathbf{a} . These actions, if executed, will have a measurable effect on the environment, which could be observed by the agent in the next time step, thus allowing for feedback and learning to occur.

The semiotic filter is modelled through a linear transformation of the environmental features vector \mathbf{y} into the *Umwelt* features vector \mathbf{u} . This transformation is represented by a time-dependent $(N_u \times N_y)$ matrix, \mathbf{F} , which, in turn is given by an affine transformation of the *Innenwelt* features vector, \mathbf{i} , as represented in Eq. (52.2). This affine transformation is implemented through an $(N_u \times N_y)$ matrix, α_1 , an $(N_u \times N_i)$ matrix, α_2 , and an $(N_y \times 1)$ vector, α_3 :

$$\mathbf{u}(t_n) = \mathbf{F}(t_{n-1}) \mathbf{y}(t_n) \quad (52.1)$$

$$\mathbf{F}(t_n) = \alpha_1 + \alpha_2 \mathbf{i}(t_n) \alpha_3^T \quad (52.2)$$

Regarding this model, a couple of comments are pertinent:

First, we must notice that if N_u would equal N_y and α_1 is the identity matrix and either α_2 or α_3 are zero, the agent's view of the environment would theoretically be absolutely objective, regardless of the agent's internal state, i.e. \mathbf{u} and \mathbf{y} would be equal.

Second, we must also notice that the filter used to set up the *Umwelt* at time t_n was defined in the previous time step, i.e. at time t_{n-1} , and depends on the internal state generated at that moment, i.e. depends on $\mathbf{i}(t_{n-1})$. This means that at time t_n you observe the world through the lenses you have developed at time t_{n-1} and not through those you are going to develop at time t_n as a result of the new inner state of the *Innenwelt*, $\mathbf{i}(t_n)$. This in turn would be the result of a new worldview $\mathbf{u}(t_n)$.

⁶ In general $(N_r \times N_c)$ indicates the dimensions of a matrix, N_r being the number of its rows and N_c that of its columns; thus, $(N \times 1)$ represents an N -component vector in the form of a column matrix.

Thus defined, this model allows for a sequential formulation of the problem, thus avoiding having to solve simultaneous equations for $\mathbf{u}(t_n)$ and $\mathbf{i}(t_n)$.

Finally, the matrix formulation of the filtering process allows for the agent to identify and assign meaning not only to individual environmental features but also to sets or clusters of features, i.e. one given environmental feature may be assigned different meanings depending on the context, i.e. depending on the presence or not of other specific features.

In the diagram, the transition from one internal state to another one is modelled as a linear function depending on the previous state, $\mathbf{i}(t_{n-1})$ —thus attributing a Markovian character to the model, on the current vector of *Umwelt* features, $\mathbf{u}(t_n)$, and on an internal vector, $\mathbf{v}(t_n)$, that represents internal information about the agent itself.

The process of cognition is an ongoing learning and maturation process through which the system according to its “know how” and learnt experience constantly defines and redefines its “view” of the world adjusting its behaviour accordingly.

As Varela (1992) writes:

Ordinary life is necessarily one of situated agents [...] situatedness means that a cognitive entity has by definition a perspective. This means that it isn't related to its environment “objectively” that is independent of the system's location, heading, attitudes and history. Instead, it relates to it in relation to the perspective established by the constantly emerging properties of the agent itself and in terms of the role such running redefinition plays in the system's entire coherence.

52.5 The Nature of Human Cognition

Human cognition cannot be viewed as an isolated phenomenon but integrated in the larger framework defined by the multiple and varied ways which different life forms have found to interact and cope with that world external to them.

Cassirer (1996) says that we must break radically with the presupposition that what we call the visible reality of things is given and present at hand as a finished substratum prior to all formative activities of the mind, because it is not the reality of things which endures but only the form that reality assumes through us. The model of interaction that characterises basic semiosis is also found in the upper levels of semiotic structuring. Cassirer (1985) has this intuition when he writes that if perception did not embrace an originally symbolic element, it would offer no support and no starting point for the symbolism of language.

But, though the general process of cognition always involves the construction of a meaningful world where the epistemic actor finds its place and role, we cannot simplify the complexity of human cognition. This comprehends phenomena whose

specificity demands analyses that, though grounded on a common epistemological framework, call for finer-grained tools.

In fact, human cognition comprehends not just a life form's capacity to cope with specific physical environments but also its capacity to evolve in dynamic differentiated social, cultural and linguistic contexts, constructing specific world views. These world views determine the nature and scope of individual and collective interactions. It is this complex semiosis that is responsible for the production of all systems of values that give body to specific social and cultural frameworks, where salience and meaningfulness are defined according to particular historical, cultural and linguistic contexts and are consolidated or redefined by recurrent individual and collective interactions.⁷

According to Cassirer (1996), what distinguishes human beings from other living organisms is their symbolic capacity. In our opinion, this symbolic capacity—a conceptualising capacity—is responsible for the definition and reification of world entities, for the objectification of social rules and for the production of all systems of values on which societies stand. These systems of values, semiotic lattices, are the substance of distinct social and cultural frameworks, where salience and meaningfulness are defined according to particular social and cultural contexts.

Acknowledging that the same principles rule both the basic and the upper levels of semiotic structuring⁸ is epistemologically crucial. On this purpose, Hoffmeyer (2008, p. 4) refers:

cultural sign processes must be regarded as special instances of a more general and extensive biosemiosis that continuously unfolds...

The semiotic process that characterises human cognition produces symbolic forms—semiotic objects—of differentiated nature and ontological status, reified instances of collective and individual experience, consciously incorporated through language.

On the particular role of language, Cassirer (1985) writes that naming singles out a particular aspect of the passing contents which never recurs with any strict uniformity, providing it with a stable sign, and on the basis of this, an “artificial” unity that allows consciousness to raise itself to the sphere of objective thinking.

Experience results from the interaction of conscious organisms with specific physical, social, cultural and linguistic environments. The irreducible relation that binds the cognitive agent and his environment is actualised in his consciousness of that environment he is embedded in. Consciousness is only possible when the expe-

⁷ Simondon (1962) calls this historical and cultural context “le fonds pré-individuel issu de l’expérience accumulée des générations qui ni vit que dans la mesure ou il est approprié singulièrement et ainsi transformé par la participation des individus qui partagent ce fonds commun”.

⁸ When we distinguish these two levels of semiotic structuring we are distinguishing the semiotic relations that involve a stimulus–response relationship which is dyadic in nature from those that involve a more complex relationship, where the capacity of symbolically encoding allows organisms to go beyond the immediacy of sensory awareness. When we distinguish these two levels of semiotic structuring we are also distinguishing biological drives that are implicit in all basic semiotic instances from the communicative urge that is inherent to human cognition.

riencer subject is able to look at his own experiences and analyse them as objective entities.

To objectify the nature of his interactions, define experience and develop a reflexive capacity, language mastery is an essential tool.

The process of constructing the individual's image of the world is parallel to that of composing the individual's lexicon. This is an ongoing process that allows the progressive expansion of the individual's linguistic repertoire and simultaneously, by objectifying experience, the definition and enlargement of his world view.

Each individual's microcosm is populated by entities defined and differentiated in the course of the interaction with the environment agents are embedded in. The entities that define a world view do not exist autonomously, i.e. independently of cognitive agents, but result from collective and individual dynamic processes of incorporation of values and symbolic reification. In this process, semiotic objects become world entities to which are assigned an identity.

Lakoff (1988) points out that nothing is just meaningful in itself. Meaning is essentially a shared value. The fact that individuals belonging to the same community assign the same values to identical mental representations is a consequence of the convergence that characterises the experiences of cognitive agents embedded in identical environments and also the result of a process of incorporation and assimilation of conventions. Barthes (1973) writes that language is at the same time a social institution and a system of values. As a social institution it is not subject to any premeditation. It is the social part of language, the individual cannot by himself either create or modify; it is essentially a collective contract which one must accept in its entirety if one wishes to communicate.

Objectified by language, entities, structured in semiotic systems corresponding to distinct domains of experience, become a sophisticated knowledge complex that expands throughout the experiencer subject's lifetime. This knowledge complex continually grows as the individual evolves in differentiated environmental circles and has the chance to experience distinct situations constructing, this way, new facets of the real.

The constitution of the individual's lexicon is a process of incorporation that though displaying a maximized activeness in early childhood goes on throughout the individual's entire lifetime. In this process concepts give body and compose the individual's lexical conceptual structure (Ferreira 2007, 2010), weaving lattices of complex associations according to the meanings they encode.

Human interactions take place in well-defined physical environments and bounded social spheres where agents interacting with their peers assume their own individuality and a role in the complex semiotic process. This leads to the definition of a personal knowledge infrastructure as a process in which individuals become simultaneously responsible for the consolidation, redefinition or even destruction of the matrixes of significance that sustain the environmental bubble they are embedded in.

According to Trevarthen (1994), every symbol has two parts: an intersubjective motivation and a referential connection to an object, event or action of human interest. In fact, language allows the reification of meaning and consequently the

objectification of individual and collective experience. This reification is also essential to the incorporation of the typical patterns of behaviour on which the routinal individual and collective performance, essential to a society, stand (Ferreira 2013). There is a proper way to sit at the table, a proper way to drive or walk through a street, a proper way to address superiors. Language allows the incorporation of “habitus” (Bourdieu and Wacquant 1992) and the definition of the specific semiospheres (Lotman 1984) reality is made of.

The substance of the semiosphere and the collective consciousness of the values that give substance to that semiosphere are generated through human cooperative interplay. The value assigned to an object, to a typical behavioral pattern or to a ritual have to be sanctioned by a community. From childhood onwards the individual learns how to correctly behave in particular situations and contexts. The accepted patterns of behaviour and the efficient skills incorporated through informal and formal learning come to be employed in a cooperative adult world in which each agent has a place and role.

In what concerns human cognition due to the richness and complexity of human environment, where physical, social, cultural and linguistic variants interact, meaning becomes a complex-structured entity, a shared informational unit embodying representational properties selected according to salience criteria that are intrinsically not subject dependent. Simondon (1964) calls this historical and cultural context where human cognition takes place the pre-experiential background issued from the experience of all precedent generations, a common background that only comes to life in the present individual appropriation, being this way consequently changed by the action of those who share it.

It is by interacting with his peers within distinct environmental circles that the cognitive agent incorporates values and codes that constitute a background prior to his own individual experience. This background, from which he can hardly run away, will always constrain his heading and attitudes.

The encapsulation of meaning in symbolic forms is a cognitive demand as human beings need to preserve and objectify experience, to create for themselves a model of their environment—a world view. Symbolisation makes the translation of inherently subjective experience into an objective medium possible. By freeing meaning from the immediacy of subjective experience and turning it into a collectively sharable object, language allows it to be incorporated, redefined and reshaped in different contexts and world views.

Language has this power of reifying experience. Constructed entities depend on the symbolic media to actualise their identity and the symbolic media become the entities they stand for. As Percy (1975, p. 46) writes:

this round thing is certainly not the word “ball” but unless it becomes the word “ball” in our consciousness, we will never know the ball.

Damásio (1995) points out that we will probably never know how faithful our knowledge of the world is in what concerns absolute reality. But what we need, and we have it, is a remarkable consistency in terms of the nature and content of the

mental representations that our individual minds produce and consequently are able to share collectively.

This very consistency of our experience and the fact that through language this same consistency can be verified and confirmed by the experience of others lead us to believe that this is an experienter-independent reality, an objective reality.

However, the concept of objectivity can never be equated with the concept of a reality external and independent. The idea of objectivity can only be understood as resulting from the interpersonal agreement about the nature and form of the experiences issued from the dialectic interplay between organisms endowed with the same cognitive resources and identical environmental conditions.

Cassirer points out that the problem refers not to the objectivity of existence but to the objectivity of meaning. We would say that this objectivity of meaning is achieved through language, a symbolic construction in which the whole community participates and from which objectivity of being emerges.

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Maria Isabel Aldinhas Ferreira is a Portuguese semiotician and linguist. She is a member and researcher of the Centre of Philosophy at the University of Lisbon, Lisbon, Portugal and a scientific advisor at the Institute of Intelligent Systems and Robotics of Instituto Superior Técnico, University of Lisbon, where she does research in the field of artificial cognition.

The fundamental questions of meaning and cognition have been at the core of her work since she was a member of the team of researchers who at the Academy of Sciences of Lisbon was responsible for making the Dictionary of Contemporary Portuguese “Dicionário da Língua Portuguesa Contemporânea” (2001). Her present research work comprehends the analysis of semiotic phenomena either in natural or artificial systems, within the developed theoretical framework and the problems inherent to human robot interaction.

Chapter 53

Text and Images

Peter Pericles Trifonas

The term “text” has evoked various meanings according to particular disciplinary perspectives. In cognitive psychology, it has been represented as the sum total of the author’s propositions; in semiotics, as the set of lexical, or visual, signs which act as cues to guide the reader’s mental decoding operations. Structuralist theory determined the text to be “an object endowed with precise properties, that must be analytically isolated” and by which the “work can be entirely defined on the grounds of such properties” (Levi-Strauss cited in Eco 1979, p. 3). Some proponents of poststructuralist theory have examined “text” as the substantive equivalent of the author’s *productivity* in the process of communication as a social exchange of thought (Kristeva 1969). Others (see Eco 1976; 1979; Peirce 1931) have cultivated a notion of “text” where meaning-making on the part of the reader is considered to be a generative movement embodying a semantic process of infinite regression which negates objective meaning and renders the written word *indeterminant* in relation to a seemingly uncontrollable nonmetaphysical networking of interpretations (Noth 1985). The purpose of this essay is to explore how the meaning-expressive potential of the lexical and pictorial forms of signification are defined.

To this end, semiotics provides theoretical and methodological framework for isolating and explaining the levels of meaning, both of language as text and the image as pictorial text. By no means exhaustive, the chapter attempts to highlight some of the main philosophical and theoretical implications concerning semiotics, language, meaning-making, and pictorial text and to reconcile them in the second half of the chapter toward the development of a viable semiotic methodology for analyzing pictorial text.

P. P. Trifonas (✉)

Ontario Institute for Studies in Education, University of Toronto, Toronto, Canada
e-mail: peter.trifonas@utoronto.ca

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53.1 From the Signs of Language to Perception

The word, whether written or spoken, is a vehicle for the acts of creating meaning performed in the exchange of thought. What is suspect is the competence of language to convey meaning. To formulate theories of communication, as is a theory of semiotics or of literature, one must explore the mechanics of human perception and the affect of language as referent, accurate or inaccurate, upon the perception process.

Man is a meaning-making animal, ordering and comprehending reality through language. Cassidy (1982) states,

It is axiomatic that mankind's greatest accomplishment is language—axiomatic in a semiotic sense. Language permits...communication about objects and events temporally and spatially distant. If not a prerequisite of thought, it is an exhaustive tool of thought. Language is a sign system. It *re-presents* and does so systematically. In written language, through the application of syntactic, semantic, and pragmatic rules, arbitrary markings assume meaning on a number of levels, for example, semantic, phonemic, expressive. (p. 78)

The object, sign production, and sign perception (interpreter) constitutes the basic unit of a semiotic communication model which clearly operationalizes the exchange and coding of information transactionally. Inherent to the *re-presentality* of language is the notion of inference, or as Peirce (1931) postulated, the concept of *interpretant*:

A sign stands *for* something *to* the idea which produces, or modifies...That for which it stands is called its *object*; that which it conveys, its meaning; and the idea to which it gives rise, its *interpretant* (p. 339).

The interpretant validates the sign, even in the absence of an interpreter, because it is a construct arising from contact with an object in the external world.

Theorists with an interest in semiotics (Hjelmslev 1943; Peirce 1931; Dewey 1922; Greimas 1983; Eco 1976; Barthes 1964; Derrida 1974; Lotman 1990) have asserted the belief that perception in itself is the interpretation of disconnected sensory data and the creation of cognitive hypotheses based upon individual experience. Yet, above simple cognition as the physical mechanisms underlying thought and symbol manipulation, or *mechanics of thought* (Hunt 1978; 1979), lies the representational level of theorizing—content of thought (Hunt and Agnoli 1991). Piaget has given a semiotic rendering of the mental image as the “interiorized imitation” (p. 14) and transformation of reality and stresses that “without semiotic means it would be impossible to think at all” (Piaget and Inhelder 1971, p. 381). The ability to represent mentally an object in the external world as an inner image, or interpretant, becomes a semiotic instrument necessary in order to evoke and think what has been perceived. The sign presupposes a mental differentiation between its signifier and the signified. Signs are not *things* or *objects*, but correlations between expression and content, so that we are essentially concerned with sign functions instead of signs (Hjelmslev 1943; Eco 1976; Greimas 1983). A sign function occurs when a certain expression is correlated to a particular context and these correlations are culturally created; thus, implying artificiality or convention.

The issue of similitude between sign and object is misleading because univocality is an unrealistic expectation in semiosis, which is unlimited and multivariate (Eco 1984; Peirce 1931). There are no universal truths because meaning is transitory and often provisionally bound in culturally determined semantic fields. For example, a sign function operates in every lie to signify something not of or true to the external world. The given code enables the interpreter to understand sign functions that are false. Ultimately, the content of an expression is not an object but a cultural unit. If we know the proper code of correlations between expression and content, we can understand signs. Language, then, is a semiotic system embodying artificial and conventional sign-meaning correlations (Hjelmslev 1943; Barthes 1970; Greimas 1983; Eco 1976; Lotman 1990).

53.2 Iconicity

Beyond perception through the signs of language, a semiotic typology of images includes five classes: (1) *graphic* (pictures, statues, designs), (2) *optical* (mirrors, projections), (3) *perceptual* (sense data), (4) *mental* (dreams, memories, ideas), and (5) *verbal* (metaphor, descriptions; Mitchell 1986). The traditional semiotic definition of an image is rooted in distinguishing its features based on resemblance:

The sign brings separate instances (subject-object on one hand, subject-interlocutor on the other) back to a unified whole (a unity which presents itself as a sentence-message), replacing praxis with a single meaning and difference with *resemblance*...the relationship instituted by the sign will therefore be a reconciliation of discrepancies, and identification of differences. (Kristeva 1969, p. 26)

The concept of image, defined semiotically as resemblance, however, refers to “visual” phenomenon and their mental representations (as defined above) and does not cover a broader spectrum of sign production including transmission through non-visual channels (e.g., spoken language; Noth 1985). In order to account for resemblance beyond visual representation, *iconicity*, or the extent to which a sign vehicle is similar to its *denotatum*, or referent, is the criterion for examination. According to Morris (1946),

A sign is *iconic* to the extent to which it itself has the properties of its denotata.... Iconicity is thus a matter of degree.... A portrait of a person is to a considerable extent iconic, but it is not completely so since the painted canvas does not have the texture of the skin, or the capacities for speech and motion, which the person portrayed has. The motion picture is more iconic, but again not completely so. A completely iconic sign would always denote, since it would itself be a denotatum. (pp. 98–99)

Can language represented graphically be iconic according to Morris’ (1946) definition?

53.3 Reading Lexical Signs as Images?

Literary competence (meaning linguistic competence as Iser 1978, defines it) is a natural prerequisite for deciphering written text; however, the superficiality of this type of competence is that it lacks a reasoned explication of meaning-making beyond the signs of language. It is an ends–means, means–ends dichotomy. The demise of logocentricity, the deflation of the spoken word and the inflation of the written, places undue emphasis upon written text at the expense of visual images. Derrida (1974) comments,

I believe...that a certain sort of question about the meaning and origin of writing precedes, or at least merges with, a certain type of question about the meaning and origin of techniques. That is why the notion of technique can never simply clarify the notion of writing. (p. 8)

The understanding of technique, as graphic linguistic expression, cannot therefore ensure the understanding of writing. For, if literary competence were the sole proprietor of meaning, language would be self-referential and the sole appropriator. Is the reading process mere mental mimesis of the language itself expressed as literary competence, or the decoding of signs of signs, semiotically unlimited through free and varied association? Eco (1984) explains the generative function of the linguistic sign within a text,

A text is not simply a communicational apparatus. It is a device which questions the previous signifying systems, often renews them, and sometimes destroys them... The ability of the textual manifestations to empty, destroy, or reconstruct preexisting sign-functions depends on the presence within the sign-functions (that is the network of content figures) of a set of instructions oriented toward the (potential) production of different texts. (p. 25)

A dialectical relationship between reader and text is suggested, since, the words, divorced from the writer as marks on paper devoid of meaning, demand a reader to actualize their meaning potential. It is not, however, a rewriting of the text. The act of reading is the re-creation, or synthesis, of constructs referential to certain artificial and conventional signs, which in themselves, have no meaning or function, until assimilated through a reading consciousness. In essence, a reading act is a rereading act striving to reformulate, in personal terms, an already reformulated reality. The problem of meaning and essence of a written text arises. The intangibility of objective meaning renders the literary work an *imaginary object*. Ineffable and nonstatic, it does not occupy the same spatio-temporal domain of ordinary experience and is to some extent metaphysical in that it exists as a mental state, event, or construct in the mind of a reader. Consequently, the accessibility of the work determines aesthetic analysis and is the basis for critical perspectives. This is a given in critical enquiry. We experience related ideas, emotions, and psychic states through the act of reading, but are distanced from authorial purpose, or intervention, as incorporated in the work. Iser (1978) attempted to reconcile the notion of iconism and the graphic representation of language in literature:

The iconic signs of literature constitute an organization of signifiers which do not designate a signified object, but instead designate instructions for the production of the signified.... The iconic signs fulfill their function to the degree in which their relatedness to identifiable

objects begins to fade or is even blotted out. For now something has to be imagined which the sign has not denoted-though it will be preconditioned by that which they do denote. Thus, the reader is compelled to transform a denotation into a connotation. (p. 65–66)

The connotative terms Iser (1978) alludes to are re-creative concepts aiding the grasp of similarities among particulars perceived in reality not objects. Knowing the terms of a written expression is not infallible because truth, or knowledge, is based in a perception of reality and not reality itself (see Dewey 1922; Eco 1976). Yet, the denotative function is an unfortunate choice of terminology by Iser because denotation commands as a codifying equivalent the “rigidification and death of all sense” (Eco 1984, p. 25). To universalize meaning denotatively, as referred to in resemblance, supreme responsibility for meaning signification rests in the text, lexical; since, the sign function, or correlation between the content form and the expression form of a sign, must determine the response (Hjelmslev 1943) and denote one meaning. Ultimately, this is a limitation upon intertextuality (experiences of different texts) and extratextuality (external experience) which nourish the generation of new experiences from which meaning is created (Eco 1984). In Iser’s (1978) argument, it is implied that words are the equivalent of iconic signs. If the iconic sign is evaluated in the context of a *true* sign, there can be no analogous, motivational, or natural relationship between the object and the signifier (Eco 1976, 1984). If indeed words are icons, as Iser (1978) suggests, what are they icons of? Other words? The notion of iconism is tautological in this case, since, the sign can never truly and completely possess the same properties as the object that it signifies, and of which we have no true knowledge, only perception. The relatedness and nonrelatedness of the iconic sign is contradicted in the argument Iser (1978) puts forward and the implication is that words are stimuli for conditioned responses to specific “signifieds,” as expressed by the definite article in “the signified.” Furthermore, it is assumed we all perceive the same objective reality.

53.4 Semiotics and Pictorial Text: A Question of Articulation

Given that pictorial texts are *polysemous*, or able to generate more than a single meaning (Barthes 1964; Prieto 1966; Eco 1968), semiotics has functioned to limit the interpretive openness of pictorial texts (Noth 1985). The central question regarding semiotics and pictures (in its broadest sense) has been focused on the semiotic autonomy of the picture: “Is an autonomous semiotics of pictorial perception possible, or does the semiotic analysis of pictures always require recourse to the model of language?” (Noth 1985, p. 450).

The suggestion for a pictorial grammar (Metz 1968; Eco 1976; Saint-Martin 1987) has been derived from the fact that pictures have no unique visual metalanguage and require language as an instrument for pictorial analysis. Arguing from a logocentric viewpoint, Barthes (1964) has focused the question on the relationship between lexical and visual elements incorporated into the same text:

Images...can signify...but never autonomously; every semiotical system has its linguistic admixture. Where there is a visual substance, for example, the meaning is confirmed by being duplicated in a linguistic message...so that at least a part of the iconic message is... either redundant or taken up by the linguistic system.... Does the image duplicate certain of the informations given in the text by a phenomenon of redundancy or does the text add a fresh information to the image? (pp. 10, 38)

The lexical–visual relationship in a text is more complex than is suggested in the question; however, Barthes' (1964) concepts of *anchorage* and *relay* are useful in considering how this type of text may generate and guide meaning semiotically. In *anchorage*, “the text directs the reader through the signifieds of the image, causing him to avoid some and receive others.... It remote-controls him toward meaning chosen in advance,” whereas, in *relay*, “the text and image stand in a complementary relationship; the words in the same way as the images, are fragments of a more general syntagm and the unity of the message is realized at a higher level” (p. 40–41). In order to facilitate meaning, the message as a whole involves both the lexical–visual dependency of anchorage and the complementarity of both textual constituents found in relay. With reference to an advertisement for pasta, Barthes (1964) demonstrated the interdependence of lexical and visual signs within the same text. The objects depicted in the advertisement (spaghetti, tomato sauce, grated Parmesan cheese, onions, peppers, and a string bag) can be grouped under the one lexical term used as a label/Panzani/. Not that these products are exclusive to a particular ethnicity, but in culinary terms the ingredients for the “complete spaghetti dish” are represented in the photograph as uniquely Italian. Since the advertisement was designed for the French consumer, and not the Italian, the ethnic connotation of the name is particularly effective in establishing a thematic or meaningful context for the intended audience. The “Italianicity” of the products depends chiefly on a *contiguous*, or adjoined, relation between the word/Panzani/and the products in order to achieve the transference of connotation from the lexical to the visual text, thereby resulting in anchorage and relay. “Is there any semiotically relevant preverbal level of visual perception and analysis?” (Noth 1985, p. 450).

Proponents for the semiotic autonomy of pictures (see Sonesson 1989) have objected that the commentaries of multimedia contexts (such as Barthes' analysis of the Panzani advertisement) have not asserted the semiotic priority of the lexical over the visual message. In other words, we could say that visible structures represent concepts without recourse to language. The theory of visual perception, or *Gestalt theory*, has been cited to justify the belief in language-independent entities interpreted as semiotic elements of visual cognition (Sonesson 1989; Krampen 1973; Mateescu 1974). According to the *Gestalt* theory of perception, the perceiving organism obtains visual data from the environment by scanning the visual field. *Gestalten*, or organized forms, are generated as holistic perceptual structures of invariant shapes, or figures, which tend to contrast against the larger background of a visual field. Interpreting *gestalten* as signs and extending the argument from the expressive plane, concerning form, to the content plane, concerning meaning, Arnheim (1954) stated that “no visual pattern is only itself. It always represents something beyond its own individual existence—which is like saying that all shape

is the form of some content” (p. 65). The expression is self-directed rather than mediated by cognition. The implication being that pictorial signs are autotelic in creating meaning independently without recourse to language, and unlike lexical signs, through the form of their expression. But can a semiotics of visual language be developed in accordance with the levels of grammar of language and reveal essential structural components of pictures? It is a matter of the “articulation” of pictures as texts.

Articulation means structuring and it has often been considered to be the main distinguishing feature of language. In language, there is a twofold structuring, or *double articulation* (Hjelmslev 1943; Martinet 1962; Prieto 1966), by two unit types: *morphemes* (minimal units of meaning within a message, e.g. syllables or words) and *phonemes* (differentiating phonetic signifiers; the corresponding units of written language are *graphemes*). For example, a word such as *in-act-ive* is composed of distinguishable units of meaning at the level of first articulation. The second level of articulation structures the phonetic (or graphic) signifiers of the morphemes into nonsignifying but differentiated units. Hjelmslev (1943) went further in separating the two planes of articulation into *expression* and *content* where the expression plane combines both phonemes and morphemes while the content plane comprises conceptual units of sense (Noth 1985), or *semes*. Extralinguistic variables, or *purports*, such as the phonetic potential of the human voice (on the expression plane) and the amorphous mass of human thought (on the content plane) are considered by Hjelmslev (1943) as substantive influences on the form of expression and content in language (see also Eco 1976, 1984). Thus, the form and content of language are inextricably bound to those human variables which determine its substance and the circumstances of its production.

The case for second articulation in pictorial text has been a point of contention among semioticians. *Gestalten* have been interpreted as *supersigns* (see Krampen 1973), or holistic elements which are products of information processing, consisting of integrated *subsigns* within a pictorial whole (see Saint-Martin 1987). Hierarchical levels of perception in supersigns are postulated to extend “from a differential optical element, a geometrical morpheme, a partial image of a signifying object to an iconic phrase and discourse” (Noth 1985, p. 451). At a more esoteric level, the possibility of pictorial second articulation has also been argued and identified in terms of *figurae* (Barthes 1964; Prieto 1966; Eco 1968; Metz 1968), or distinctive but not meaningful units of visual perception corresponding to phonemes (or graphemes) on the expression plane. These stimulus invariants to visual perception are defined by natural laws in relation to the environmental sources of their production and the resulting effect upon the psychology of the viewer (e.g., figure-ground relations, light contrast, or geometrical elements). *Figurae* in turn aggregate to constitute *signs* (comparable to the morpheme) and form *semata* (or visual “propositions”) as total iconic statements. The presence of double articulation in pictures at the second level has been questioned by citing the argument that the *figurae* level merges with the *sign* level and the *sign* level with the *semata* level to create pictorial meaning (see Sonesson 1989). Further research on pictorial texts (see Eco 1976) has proposed that specific rules of pictorial segmentation can only be determined within

individual pictorial contexts and that “iconic text is an act of *code-making*” (Eco 1976, p. 213). This approach emphasizes the differences and the similarities between pictorial and verbal representation (see Goodman 1968). Saint-Martin (1987) presents a convincing case in support of a visual syntax of pictorial language by incorporating features of the arguments posed to the contrary within a semiotic theory of pictorial text. For example, the *coloreme* is postulated as the basic visual element (corresponding to the phonemic level in language) which functions to differentiate meaningful visual elements, even though, meaning signifying potential is absent. The aggregate of colorememes, at a more surface than deep level, constituting the dot, the line, and combinations of the two elements, are considered to lack intrinsic meaning; however, as particular constituents of a pictorial text these elements, as aggregates, form distinctive features of an object, or objects, in the pictorial plane (Prieto 1966; Saint-Martin 1987; Sonesson 1989) and gain meaning as *gestalten*. The syntactic analysis which Saint-Martin provides, ultimately, attempts to furnish hypotheses for an analytical approach to large aggregates of colorememes as nonlinear but correlational schemata based upon perceptual processes of constant interaction. The result is effective because gestalt theory, colorematic analysis and semiotic principles are combined to examine pictorial text at once as structural entity and a *supersyntagm*, or a total unit of sense.

53.5 Visual Intensions and Extensions

Just as the lexical text is constituted of the sum of individual features which work to create meaning as a whole, the visual text is composed of readily identifiable elements that create a meaningful integrated form of expression. Consequently, the relationships between the manifest properties of colorememes, or minimal color units comprising a visual text, disclosed at a point of ocular centration during the act of viewing, may also be analyzed syntactically and semantically (Saint-Martin 1987; Arnheim 1954). The cumulative effect of two sets of visual variables, plastic and perceptual, upon the perception process, isolates the latent properties of the colorememes virtually present in the viewer’s store of culturally determined visual encyclopedic knowledge (Gombrich 1960; Saint-Martin 1987). Exploring the general chromatic relations between colorememes in a particular pictorial text, creates an awareness of how the visual variables determined through the formal structure of the work interact with respect to the perceptual processes of the viewer and engender meaningful visual experiences. Color, value, and texture are plastic variables while line, shape, form, vectoriality (focal point and directional tension), and implantation (position/balance) are perceptual variables (Saint-Martin 1987).

Anaphora, for language, is characterized as a network of relations between two or more terms, on a syntagmatic axis, establishing linkages in discourse (Greimas 1983). On the level of visual text, anaphora can be regarded as the unity and coherence between the elements which comprise the work that must be maintained to create pictorial sense. The recognition of form, from schema as objects, in a visual

text is deictic because it is dependent upon the recognition of changes in the intensification or regrouping of colorememes aggregately within a visual field. Distinct contours between figures (open or closed) creates analogous forms isomorphic with reality and results in a stable and organized visual field; whereas, digital, or symbolic, forms rival viewer interpretation because distinct form contours may or may not be present within the figures. The spatialization, or placement of forms, within the fore, middle, or background of a pictorial plane is a determinate of the viewer's interpretation of a visual text resulting from variables in perception(s) according to individual gestalten approximations derived from experience (see Arnheim 1954; Saint-Martin 1987). Ultimately, the viewer can discern visual forms in a definitive spatial relations and the setting of which they are a part, thereby setting up a possible visual world that invites the suspension of disbelief.

It is primarily through closed forms that regions or subregions in a pictorial plane lend themselves to iconization and are interpreted in relation to the properties manifest in relative natural forms external to the world of the visual text (Eco 1979; Saint-Martin 1987). It is on the level of visual metaphorical structures that a verbalized equivalent can also be connected to the representation of form, thus, allowing for the linguistic differentiation of the pictorial elements of the text which adhere to *vraisemblance*, or display a direct correspondence with real-world entities. In "global" terms, the extent to which the visual text reinforces the lexical text can be described as cross-medial agreement. If there is a direct correlation between the visual and lexical possible worlds projected, then an objective correlative, or concrete visual representation, of the possible world referred to on a total textual level is established and elaborated upon through linear visual narrative. If not, then there is a chiasmus, or separation, between alternative world visions posited, visual and lexical, that the reader must juxtapose as fabulaic alternatives. The products of this type of visual stylistic overcoding are literal and figurative visual frames which may or may not reinforce reader abductions irrespective of stylistic considerations. On this level, the visual text works to secure thematic considerations as well as the functions of visual metaphorical structures from which abstractions in the form of macropropositions of the visual fabula (e.g., themes, pictorial motifs, etc.) are abducted by the viewer.

Visual indexes are the result of generative or repressive cross-medial image indicators built into the conventions of the text as a supportive visual framework for the inferences drawn from the lexical text. Beyond replication of possible lexical world constructs, the visual indexes set up cross-medial frames of reference with respect to internal and external paradigms applicable to a particular text which suppresses disjunction and supports thematic concerns on the level of the "global" fabula by providing points for comparison/contrast and clarification/elaboration upon the narrative structures of the lexical text through the linear visual narrative of the pictorial text. Therefore, the visual indexes serve to limit and define the viewer/reader's extensional responses in accord with the aesthetic conventions of the text by aligning the visual contexts appropriately to insure indexicality for the interpretation of signs and codes, lexical and visual, within a specific schematic and textual framework.

Through the isolation of visual actantial structures, the viewer attempts to furnish hypotheses necessary for an analytical approach to the pictorial text as part of a sequential linear visual narrative. The viewer's approach to decoding, however, is nonlinear but correlational in that the interaction of forms within the pictorial setting results in an awareness of the visual actants comprising a supersyntagm, or combination of elements co-present in the visual text, as they function to elicit thematic meaning (Saint-Martin 1987) over an extended series of visual frames which constitute the visual fabula. The active or passive interaction of forms creates visual actantial roles (e.g., subject vs. object, sender vs. receiver) within the picture plane, and as the visual plot is unfolded pictorially through the interplay of visual actants with distinctive thematic functions in the action and events of the linear visual narrative, the viewer is able to discern the visual actors.

In essence, "textual truth" is determined pictorially when the visual text is acknowledged as "real" and the subsequent assignment of truth values placed upon a particular form or relation(s) between forms, as visual actors depicted in a linear visual narrative, is correlated with the truth values disseminated by the same relations between relative actors in the narrative structures of its lexical compliment. The reduction of the visual text to propositions of binary opposition determines if there is an incongruency which must be resigned before the lexical and visual texts are aligned on the level of fabula to consolidate the total ideological vision of the text in its structuration.

Through (visual) veridiction, there is an attempt at corroboration of assigned truths, both lexical and visual, within a single textual world structure. The extent to which the "textual truth" assignments of the lexical text and visual text are aligned thematically on the level of fabula, determines the aesthetic success of the work as a whole and the viability of the vision embodied within it.

Let us consider another example to compliment Barthes' notion of anchoring and relay with the above in mind.

53.6 A Semiotic Rendering of Pictorial Aesthetics: Picasso's *Guernica*

If we look at Pablo Picasso's *Guernica*, a masterwork on the Spanish Civil War and the last great political work of art produced in the twentieth century, we can address the questions and principles I have raised above regarding the semiotic analysis of pictorial texts. Just as lexical text is constituted of the sum of individual features which work to create meaning as a whole, the visual or pictorial text of *Guernica* is composed of readily identifiable elements that create a meaningful integrated form of expression. Consequently, the relationships between the manifest properties of the colors, figure, and forms, comprising the visual text, disclosed at a point of ocular centration during the act of viewing, may also be analyzed syntactically and semantically (Saint-Martin 1987; Arnheim 1954). The cumulative effect of two sets of *visual variables*, plastic and perceptual, upon the perception process, isolates the

latent properties of the colors, figures, and forms virtually present in the viewer's store of culturally determined visual encyclopedic knowledge (Gombrich 1960; Saint-Martin 1987). *Color*, *value*, and *texture* are plastic variables while *line*, *shape*, *form*, *vectoriality* (focal point and directional tension), and *implantation* (position/balance) are perceptual variables (Saint-Martin 1987). Exploring the general relations between these colors, figures, and forms in a particular pictorial text, creates an awareness of how the visual variables determined through the formal structure of the work interact with respect to the perceptual processes of the viewer and engender meaningful visual experiences.

Guernica works on multiple levels of representation toward a disturbing depiction of the horrors of war. The painting reveals the continuity and discontinuity of life as it is permanently changed and interrupted by terrorist intervention. The overall presentation of images that comprise the painting is quite dynamic. The visual scene does create viewing tensions between the main figures that are implanted in the four corners of the painting as well as the upper and lower borders (e.g., the weeping woman, the bull, the Mithraic eye, the tortured men, etc.), as the eye is drawn between them to scan the specific content. But the painting maintains the quality of a freeze frame where action is captured *in medias res* and the ecstatic emotion and action is arrested in the stilling of life. The scene that we experience at first glance is an aggregate of figures and objects that constitute an angry yet studied memorial to the Fascist bombing of the Spanish town of Guernica in the middle of the night of April 26, 1937. The images relate both to the elements of the lifeworld and their violent interruption. People and animals are represented in whole and in part on the flat surface of the canvas in such a way that the three-dimensional depth of the scene is contained on a two-dimensional plane. The compression of the figures creates tension and guides the viewer from the center of the painting, which is the wild-eyed and pointy tongued horse, to the stark black, white, and gray color scheme constituting the entangle of bodies and things strewn across the visual field of the canvas. The style is more cubist than realist because the forms are intertwined, overlap, and are stylized for dramatic effect. In one respect, *Guernica* is visceral (emotional or affective) rather than intellectual (cognitive and metacognitive). The scene uses iconic forms to depict the violence of war that it captures so that the viewer has no difficulty in comprehending the expressions of fear and pain that are the most striking feature of the painting. The first viewing of any pictorial text takes in the total field of what is represented without analytical depth or structural isolation. Lines, shapes, and colors are experiences as whole forms embedded within a scene of interactive and codependent elements of composition, not in the specificity of articulation that gives meaning through the manipulation of details. We see human and animal faces and body parts conjoined in a pictorial syntagm of total sense, whose ideological purpose or intent is not surmisable at this point beyond a general aesthetic attitude. The most we can determine from a first viewing is how the symmetry and dissymmetry of the visual field affects the terms of our apperception of the total painting. The organizational structure of forms elicits general aesthetic and emotional responses that must be explored further by the viewer through a closer inspection of the structures that make up the contingencies of visual field. Other-

wise the judgments we make are benign, superficial, without depth (e.g., it would be meaningless to say that the painting is “interesting,” beautiful,” or “revolutionary,” without going into detail about its composition, its placement in space and time, etc.). In this case, because the painting is partially cubist and the perspective is refracted, scaled, highly abstract, any critical interpretation of the scene occupying the visual field demands the viewer’s engagement with the elements of composition and design. We could ask: What is the meaning of the bull? Why does the sun have an eye in it? Who broke the sword? Why? The answers to such questions localize the viewing experience to particular elemental forms and figures that articulate relationships of cause and effect both within and outside the frame of reference.

Guernica is an idiosyncratic portrayal of Picasso’s disgust at the bombing of the town. It is also an invective against war. The ideological expression of this dissent is put forward thematically in the painting through the visual details that articulate a code of symbolic associations bringing together thought and action. Splayed fingers and distended limbs convey a feeling of despair and urgency in the scene that defines the imagery as relating to extreme emotions, human and inhuman. Nature is in sympathy with the victims of the atrocities of war that we envision being committed in this artistic re-creation of the bombing. Looking closer at the painting, we see the grotesquely arched neck of a weeping woman. She holds the slumped body of a baby. The faces of tortured men are drawn alongside the heads of suffering animals. These oppositions reinforce the symbolic significance of the breakdown of natural order. The lines tracing the figures are simple, childlike, the colors opaque, alternating between shades of white and gray. A deformed bull complements a stricken horse. As we look at the figures, most of the forms are easily identifiable and therefore emblematic as icons of the natural world. But other entities—the horse’s body, for example—are composed of fractal elements that both disguise and reveal the contour of the animal in alternating patterns of light and dark grays. Indeed, the mass of shapes in the center of the painting are an indistinguishable conglomerate of meaningless geometrical structures the viewer must disambiguate. At the level of supersigns, the combinations of lines and colors that create shapes in turn make human and animal forms visible. Each figure relates to the other thematically; whereby, the message of the painting is conveyed via the design, placement, and combination of images. The terms of the relation are metaphorical because the artist’s ideological concerns are implied through the use of line and color rather than stated outright in language. Picasso presents a lyrical mixture of archaic signs and political symbols ground in the contextual motivation for the painting itself that create a semantic web of meaning associations by encouraging interpretation. The viewer cannot ignore the metaphorical connotations of these real-world images as they relate to the context of war: a flower represents hope, a broken sword signifies defeat, the dove promises peace, the gored horse suggests the Spanish Republic, the bull is Franco. Putting all of these icons together, *Guernica* speaks to the viewer of the epic barbarity of war in a symbolic language of visual signs that are motivated by an artistic act of commemorating the violence of an historical event in a negative way. Its visual text is made up of pictorial images whose metaphorical significance codifies and concretizes the personal statement Picasso made against war, so as to

enable the viewer to make sense of the painting and to give it a reason for being in relation to the lifeworld.

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Peter Pericles Trifonas is a professor at the Ontario Institute for Studies in Education/University of Toronto. His areas of interest include ethics, philosophy of education, cultural studies, literacy, and technology. Among his books are the following: *Revolutionary Pedagogies: Cultural Politics, Instituting Education, and the Discourse of Theory*, *The Ethics of Writing: Derrida, Deconstruction, and Pedagogy*, *Ethics, Institutions and The Right to Philosophy* (with Jacques Derrida), *Roland Barthes and the Empire of Signs*, *Umberto Eco & Football, Pedagogies of Difference, Deconstructing the Machine* (with Jacques Derrida), *International Handbook of Semiotics, Counter Texts: Reading Culture*.

Part VIII
Education and Semiotics

Chapter 54

Becoming a ‘Mythologist’: Barthes’ Mythologies and Education

Jesse Bazzul

I resented seeing Nature and History confused at every turn, and I wanted to track down, in the decorative display of what-goes-without-saying, the ideological abuse which, in my view, is hidden there (Roland Barthes, Preface to Mythologies, 1972a, p. xx).

In neoliberal, global capitalist times, with its vision of the public as homo economicus, humans isolated from their social needs and the natural world, it may be as urgent as ever to confront the abundance of myths in education that work to reproduce our current social order (Foucault and Senellart 2008). This chapter encourages educators and students to interrogate educational practices and phenomena that are presented as natural, commonsensical understandings of the world by becoming what Roland Barthes (1972a) calls *mythologists*. Barthes’ *Mythologies*, along with their semiotic methods of ideology critique, have not been employed to a significant extent in education; however, some have seen the potential. For example, David Granger (2008) sees contemporary school reforms (e.g. No Child Left Behind) as reliant on mythological forms of ‘the spectacle’, which Barthes (1972a) develops in his mythology ‘The World of Wrestling’. Like Roland Barthes, I am motivated by the contradictions of my ‘present’, and the desire to tease them from common sense.

The next section outlines the most salient aspects of Barthes’ semiology. The remainder of the chapter deals with ideological aspects of bourgeois myth and explores the idea of becoming ‘mythologists’ in education. I conclude by highlighting four examples of non-fiction writing that attempt to ‘demythologize’ four of my experiences in education that function in mythical ways. These mythologies are intended to be an example of creative (de)mythologist writing and critical reflective practice.

J. Bazzul (✉)

University of Massachusetts Dartmouth, Dartmouth, MA 02747, USA
e-mail: jbazzul@umassd.edu

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54.1 Barthes' Mythologies and Myth Today

About three days after I began to compile notes about what makes Roland Barthes' (1972a) *Mythologies* a text worth examining in education studies, I came across an obituary for the artist Richard Hamilton, a contemporary of Roland Barthes in the critique of consumer culture and advertising (Grimes 2011, Sept 13). As my eyes moved down the screen, I came across the collage, *What is it that makes today's homes so different, so appealing?* Hamilton's way of turning suburban life from the ordered accumulation of modern technology and economic success to something fabricated along the lines of a completely different cultural logic was arguably the same 'move' made by Barthes in *Mythologies*. The work of both Barthes and Hamilton attempts to make everyday common experiences in bourgeois society (today's version being global capitalist, neoliberal) seem less ordinary and more like a dream, or rather someone else's dream. Published in 1957, *Mythologies* is perhaps the world's quintessential social semiotic text, but is often forgotten alongside Barthes' later sociological work (Culler 2001). Barthes is continually cast into two selves. On the one hand, a mythologist, who looks for the operation of signs and ideology in cultural norms, and on the other, his passionate descent into pleasure and what eludes signification in images and text (Oxman 2010). *Mythologies* consists of a series of creative non-fiction essays which expose how myths of bourgeois culture are infused into everyday practices/objects that seem natural in themselves, from the French love of wine to the world of fake wrestling (or is it fake?). *Mythologies* was 'a mode of practicing cultural studies before its more recent forms of actualization' (Stivale 2002, p. 458). Originally published in the magazine *Les Lettres Nouvelles*, Barthes' three-to-four-page mythologies, and the accompanying essay entitled 'Myth Today', aroused much debate on both sides of the political spectrum. In the early 1950s, Barthes shifted from a more dialectical approach to demystification to one that tried to establish myth's transmission and consumption within a somewhat scientific discipline (Stafford 1998). Barthes' use of myth to critique what was given as universal moved myth away from something anthropological as in the work of Levi-Strauss' (1979), and opened the way for semiotics to establish itself as a discipline that engages the complexities of the present (Calfato 2008). As Charles Stivale (2002) cleverly emphasizes, *Mythologies* relies on a unique ambivalence given to myth, at once something deliciously pleasurable to read, to dissect, yet so critically cutting. The insight contained within *Mythologies*, along with the parallels between the bourgeois ideology and the current twenty-first century reality of global capitalism and neoliberal ideology, makes it a fundamental text in dealing with what is given to us unproblematically in media, pop culture, and official discourses. At the very least, *Mythologies* is probably the best introductory text to critical social semiotics (Veivo 2008).

For Barthes, myth in bourgeois society can attach itself to any system of meaning. Myth naturalizes elements found in culture and transforms them into universalized norms, the danger of which is at least twofold. First, the dissemination of myth promotes a kind of unreflective acceptance of cultural norms and messages. Second, the ideological content of the message, of myth, is taken as a statement of

fact, perfectly natural in itself. Much of the complexities of history, of the signifier to the signified, are limited and distorted by myth for ideological purposes (Trifonas 2001). For example, the public perception of the Occupy Wall Street movement is based on mythic understandings—truisms the public is meant to accept uncritically without recourse to history or politics. Keith Boykin (2011) names some of these ‘truisms’, including Occupy’s use of violence, lack of black or working-class participation, anti-Americanism, and lack of direction—while it is in fact multi-directional, quite peaceful, and has been organized for the sake of all Americans. The usefulness of *Mythologies* today lies in the fact that ideological content in the twenty-first century has been rendered more invisible. While old ideologies still exist, new ones emerge when we believe we are being open-minded and ideologically ‘aware’. As Slavoj Žižek (2011) argues, today we are ideological precisely at the location of our cynicism, for it is in this cynicism (for example, disdain for the practices of Walmart™) where ideology functions (we shop at Walmart™ anyway). As Patrick French (2009) points out, ‘in *Mythologies*, everyday life is seen as the exclusive prey of ideology, of mythic or discursive capture’ (p. 118). For Barthes, nothing is exempt from myth and ideological signification.

Barthes was interested in the systematic way in which bourgeois culture presented itself as universal and wanted to account for how this mystification occurs both semiologically and ideologically. He anticipated that semiotics, and more specifically the study of myth, would become a scientific discipline. Barthes and Sontag (1982) later abandoned hopes of establishing a science, insisting more on an art form, claiming that semiology,

does not rest on a “semiophysis,” an inert naturalness of the sign, and it is also not a “semio-clastry”, a destruction of the sign. Rather... it is a semiotropy: turned toward the sign, this semiology is captivated by and receives the sign, treats and if need be, imitates it as an imaginary spectacle. The semiologist is, in short, an artist (as quoted in Noth 1990, p. 475).

Reading through *Mythologies*, it is clear that there are traces of both conceptions of semiology—the groping for a kind of scientific coherence and an acute creativity. Unfettering his work from other meanings attributed to the word myth, Barthes sets out to describe a type of speech, a form onto itself. For Barthes, myth has a distinct semiological character in that it can be studied as form apart from its content, yet can also be seen as a historical or ideological phenomenon, its relation to semiology being the study of ‘ideas in form’ (Barthes 1972a, p. 112).

54.2 Barthes’ Semiology of Myth

To recognize myth at the level of semiology, two important concepts must be understood. First, that the relation between the signified and the signifier is itself a sign. Second, that myth is built on top of this original structure of signifier and signified in that the sign of the first system becomes a signifier in the next. In this way, myth is also a metalanguage because it speaks about a first-order system. Figure 54.1, adapted from ‘Myth Today’, illustrates the relation between a first- and second-

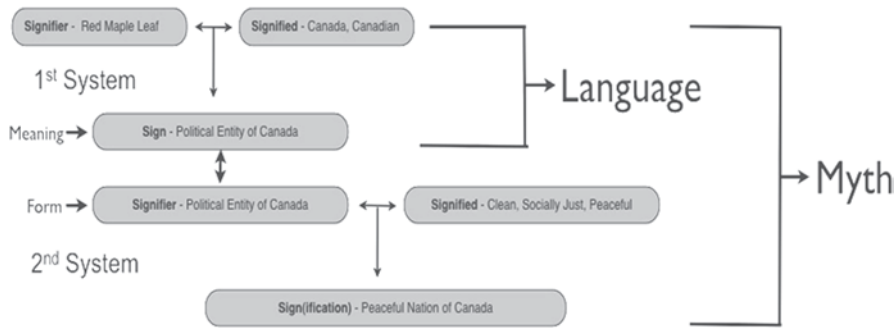


Fig. 54.1 Barthes semiology of myth using the example of the political entity of Canada

order semiological system, between language and myth, using the example of the political entity of Canada.

In Fig. 54.1, the ‘political entity of Canada’ exists in two semiological systems, as a sign in the first and a signifier in the second. This ‘site’ for myth is ambiguous in that it occupies, at the same time, meaning from the linguistic system (the histories and complex relations that make up Canada) and form from the side of myth (a space to be filled with the myth of Canada as a peaceful, socially just nation). From the side of meaning (language), the ‘political entity of Canada’ has many histories, political relationships, and memories; from the side of form (mythical signification), memory and history are emptied. Knowledges and histories must vacate and make way for signification or mythical notions of this political entity. However, the political entity of Canada as a form does not destroy *all* meaning, knowledge, and history, it only *diminishes* it, since the form must be able to obtain, from the meaning (of political entity of Canada) whatever it needs to be rooted. As Barthes (1972a) says, ‘It is this constant game of hide and seek between the meaning and form which defines myth’ (p. 118). The form is filled by the knowledge of the mythological concept; however, it can easily alternate with its actual signified meaning so as to hide in a kind of turnstile. The signified concept that fills the form, however, is never ambiguous; this concept (Canada as a peaceful nation) is specifically *meant* to be appropriated by the receiver of myth. Thus, one fundamental feature of the mythical concept is that it *gets appropriated*. The mythical signified can have many signifiers as well, and it is in the repetition of the mythical signified, in its many different signifiers, that myth is located and deciphered. Barthes (1977b) employs this notion when examining the language of advertising and the common ideological domain of connotative systems that become naturalized by a plethora of denotative messages. The conception of Canada as a particular kind of nation, socially just, kind, peace-loving, will therefore be present in all sorts of signifiers (cartoons, newspaper headlines). In this way, Barthes (1981) notes that photographs cannot signify, due to their dietic existence, *unless* given a mask or concept which operates as a kind of myth. As Barthes says, ‘This is why the great portrait photographers are also great mythologists’ (p. 34).

54.2.1 Reading Myth

Mythologies advocates a way of reading myth that sees the signifier as both form and meaning. In this way, the 'mythologist' can recognize the ambiguity of signification. In our example from Fig. 54.1, it would involve seeing the signifier of the Red Maple Leaf, and what it immediately signifies, as both a sign with a history and a complex political reality as well as form that is filled with a particular type of mythic understanding. This way of reading involves having the reader 'live with' myth while revealing its essential function, taking the reader from semiology into ideology. That is to say, the reader will see where and how what is historical, political, and complex is turned into something natural. Barthes summarizes this succinctly:

We reach here the very principle of myth; it transforms history into nature...what causes mythical speech to be uttered is perfectly explicit, but it is immediately frozen into something natural; it is not read as motive but as a reason. (p. 129)

It is this natural state that provides myth with its full force, as the power of myth lies in its first impression. Much of the time, it matters little that one later 'sees through' myth as the mythical concept has already been relayed. As Barthes (1972a) says, 'a more attentive reading of the myth will in no way increase its power or effectiveness' (p. 130). The power of myth is not in what it hides, but in its ability to turn its message into something innocent or natural. The reader takes the mythic signification for a system of facts rather than one of values coming out of history, politics, or material conditions.

54.3 Ideology and Bourgeois Myth

Barthes' treatment of myth as ideology is imbedded within a Marxist political context of post-war France. His stance towards myth is vitriolic, which can be seen in his claim that myth essentially robs language, like a helpless victim, of its richness. Myth is like a virus—something that insinuates and swells in the open meanings of language. To Barthes, 'the very end of myths is to immobilize the world: they suggest and mimic a universal order which has fixated once and for all the hierarchy of possessions' (p. 155). For example, in education, the Race to the Top initiative has been successful in getting the American public to quickly accept (they are meant to accept) that great schools are ones that satisfy standards set by neoliberal government initiatives and standardized tests (Bazzul 2012). The struggle for the mythologists in education centres on nothing less than the purposes of schooling.

This leads to Barthes' most useful statement regarding myth: 'Myth is depoliticized speech' (p. 143). In fields like education, we must ask if what is given to us (teachers and students) is given as simple fact or something that 'goes without saying'. For Barthes, bourgeois myth,

abolishes the complexity of human acts, it gives them the simplicity of essences, it does away with all dialectics, with any going beyond what is immediately visible, it organizes a world without contradictions because it is without depth, a world wide open and wallowing in the evident, it establishes a blissful clarity: things appear to mean something by themselves. (p. 143)

Myth is characterized by a metalanguage that *celebrates* things, rather than acting upon them. Therefore, the opposite of mythic speech is one that speaks of action, one that remains political. Whenever one speaks in order to transform reality, rather than speak about it, language is referred directly to an object, to the making of things, and myth becomes impossible. For Barthes, the fact that the bourgeois hides class difference, and therefore its own presence in the world, requires it to speak with mythic language, whereas revolutionary speech about material conditions declares itself openly political, thereby speaking of the world directly and abolishing myth.

Barthes outlines seven rhetorical forms that bourgeois ideology and myth utilizes when turning the historical into the natural. In his own mythology essays, he exposes some of these rhetorical forms as they function within cultural representations. These rhetorical forms are listed below:

The Inoculation This consists in admitting nominal wrongdoing in order to immunize against far-reaching criticism. In terms of the signification of Canada, this could amount to an admission of small mistakes by past governments, which functions to preserve the image of Canada as a peaceful, socially just nation.

The Privation of History History evaporates from the object of myth. Myth doesn't dispense with history altogether. Instead, it selects a particular history and subsequently the 'natural' contingency of that history, one meant to come into existence since the beginning.

Identification Reducing another person to sameness since recognizing 'the other' puts the bourgeois universe in danger. Bourgeois myth is also quick to define a natural state to man, and if there should prove to be an exception, it becomes 'exotic' and/or deviant.

Tautology This rhetorical device deprives something of its history by defining like by like, such as girls will be girls. In Barthes' (1979) mythology 'Billy Graham at the Vel' d'Hiv', he describes Graham's speech as 'devoid of content that is not tautological (God is God)' (p. 64).

Neither-norisms Essentially, 'I want *neither this nor that*', which establishes an ideal middle. Barthes argues that such a tactic is a way of renouncing a priori judgments, giving the illusion of freedom from a pre-existing set of values.

The Quantification of Quality Bourgeois myth reduces quality to a quantity. When 'myth economizes intelligence: it understands reality more cheaply' (Barthes 1972a, p. 153). The high cost of a piece of art, or the status of a person's salary, all work to obscure a discussion of quality.

The Statement of Fact Best understood as the use of common sense. Rather than make statements which speak of real circumstances, commonsensical statements appeal to eternity.

54.3.1 *Engaging Myth Conceptions*

Barthes' semiotic and ideological rendering of myth, if nothing else, operates as a battle cry against what is given to us as natural and eternal. In his photographic autobiography, *Roland Barthes*, he articulates this sentiment vividly:

He could not get away from that grim notion that true violence is that of the self evident: what is evident is violent even if this evidence is gently, liberally, democratically represented; what is paradoxical, what does not follow of itself, is less so, even if it is imposed arbitrarily; a tyrant who promulgated preposterous laws would all in all be less violent than the masses which were content to utter what is self-evident, what follows of itself; the 'natural' is in short, the ultimate outrage. (Barthes 1977a, p. 85)

Barthes is wary of the role of 'intellectual as mythologist' as he sees it as one of profound alienation. By disrupting myth, mythologists cut themselves off from myth consumers. In the case of 'the peaceful nation of Canada', it means cutting oneself off from those who take comfort in such a myth—who find their very humanity in borrowing it. Furthermore, the mythologist is barred from revolutionary action or 'speaking the real' when she is confined to speaking about myth using a metalanguage. Barthes (1972b) later develops a more nuanced position for the writer, one of *écrivains et écrivants*, the writer who produces *for* and *despite* society, respectively, and who oscillates between these two positions.

Barthes outlines two ethical pathways for mythologists: 'Either to posit a reality which is entirely permeable to history, to ideologize; or, conversely, to posit a reality which is ultimately impenetrable, irreducible, and, in this case poetize' (p. 158). One can also become a reader of myths, and describe, always after the fact, how these myths are rendered as natural, as Barthes does in his mythologies. I urge this kind of (de)mythologist writing for the field of education, where didactic, common-sense understandings seem to be the preferred mode of speech (Bazzul 2013). These creative non-fiction texts could also take fictional form. Another way to disrupt myth is to create a third semiological system where the signification becomes the signifier of yet another system—as Barthes says, 'why not rob myth?' While Barthes cites Flaubert as one who makes myth of myth, perhaps the best example of 'mythological' fiction is the work of Luis Borges, who creates myths, often more detailed than the original, on the back of other myths (Borges and Kerrigan 1962). This can be seen in the short story 'The Gospel According to Mark', which renders Christian myths 'reopened' for understanding the relationship between God, the people, and the text, while robbing particular canonized doctrines of Jesus Christ of their mythic signification(s). Fictional writing disrupts myth by robbing the 'naturalized' original and superimposing another myth, equally naturalized, but now quite noticeably so.

Though Barthes moved slightly away from his earlier writings, he did not negate the semiological and political analysis of Mythologies. If Barthes had lived to see the world's descent into a so-called post-ideological age, he may not have concluded that today's mythologies are 'readily apparent'.

54.4 What Could It Mean to Mythologize?

In this section, I present examples of (de)mythologist writing that attempts to disrupt representations and practices in education. These four pieces were written to make sense of my own experiences working as a school science teacher. Though my mythologies are creative non-fiction, such writing could also be fictional, with the goal of exposing the first mythology seen as a 'naivety' (Barthes 1972a, p. 148). Following Barthes, mythologizing can be seen both as deciphering myth and creative writing using a range of literary formats. The four abbreviated pieces of mythologizing below are entitled 'The Dean's Speech', 'The International School in Pechersk', 'False Debates in Science Education (NOS versus FOS)', and 'The Rubric'. These mythologies take the form of Barthes' small mythology essays, and involve drawing ideological aspects out of the banal.

54.4.1 *The Dean's Speech*

The new teacher educators sit still in small chairs, listening to the Dean's speech. They watch her long slender fingers outstretch, then clasp again. One could say they are wrapped up in her speech; they are implicated in her excellence.

The Dean opens her speech with the goals of the teacher education programme—excellence in teaching based on the latest research—and reaffirms the institution as one of the best. Both statements are spoken as if justified in themselves—there is no mention of exactly how we excel or lead. Educational institution in Mussolini's Italy could easily have said the same thing—and meant it. Excellence is also arbitrary. It exists for automobiles and war planning. The teacher educator beside me bobs her head; it is difficult to refuse excellence.

The speech turns to one of the Dean's first experiences as a teacher educator, signalling her arrival at the podium as a destination. When she was just starting out, she begins, a student teacher had come to see her about a teacher certification exam that she had failed by two points. The Dean tells us how she invited the student to sit down and review the test, to see where she went wrong. When the review was completed, the student teacher was asked if she understood where she had erred and if she had any more questions. Affecting a bedraggled tone, the Dean assumes the voice of the student teacher who pleads that she had worked very hard all year and studied countless hours for the exam. At this point, the tension in the Dean's story is at its highest as it is not quite clear to us, the audience, what the outcome will be. Will the Dean's response be appropriate? Is this a lesson of folly?

The Dean continues her speech by describing how she assured the student teacher that she should be proud of that effort, but that the score of the test was to stand. The Dean now affects an angry voice for the student teacher who exclaims irately that education is not medicine or nuclear physics and beseeches the Dean to let her pass based on her year's work and efforts. The Dean pauses here looking directly at some of us before exhaling her response. Emphatically, she explains how she looked the student teacher directly in the eye and told her that the teaching exam was just as important as the exams that happen in physics or medicine, and if she, the student teacher, was serious about being a teacher, she could try again next year. Closing her speech, the Dean exclaims that the idea of excellence is what our distinguished teaching faculty must take to the teaching profession, that students deserve no less than the best. Everyone claps for the Dean's speech. She steps off the podium and takes her seat at the head table while the audience of new teacher educators quietly await the rest of their orientation.

It is the wielding of an undescribed excellence along with its inseparability from the Dean's actions, and by extension the future actions of the teacher educators, which casts the Dean's speech as overtly mythic. It is never clear what excellence entails, yet it is presented as natural and measurable. The Dean is assumed to have the same wisdom in the past as she has at the time of the speech, thereby lifting the story of the student teacher's situation out of any context and into the realm of the universal and ahistorical. There is no ambiguity in the Dean's speech, not only in what the student teacher 'knows' (less than she should) but also in what counts as knowledge (definitive test answers quantified). No actual reason is given to fail the student teacher aside from a mysterious quantification. From what is said, the reason the student teacher failed is not the test itself, for we do not know its content, structure, or purpose, but simply because the Dean said so. All of us witnessing the speech were made to sit on the same plain of ideas and contexts as the Dean, the test, and the student teacher of the past—that of universal knowledge in the hands of the powerful. Here, treating education as science acts also as a simulacrum, one that disguises a lack of systematic thought in the student teacher's case. The Dean's story relays a particular set of values, not truths.

54.4.2 *The International School in Pechersk*

We could not ask for a better simulation of international relations than the international school. Here, privileged children participate in model United Nations alongside local support workers and students, providing plentiful opportunities to see international relations at work. These opportunities are amplified by the honesty and pragmatism of teachers hired out of places like Manchester, Alberta, and Salt Lake City. Unlike their diplomatic counterparts, whose job it is to represent their state (and not themselves), international school teachers and principals must not keep their opinions discreet. They cannot help but speak about what they were hired to do. In the Pechersk neighbourhood of Kyiv, there is such a school, and there I was able to see international relations up-close.

In September came the inoculation, the carnival—or international night—where expatriate students and parents parade the essential garb and food dishes meant to be theirs (their national/ethnic background). About 80% of the community will actually understand this as a celebration of multiculturalism. The rest understand at least one level of superficiality—international night doesn't really address the diversity or political situations in schools, although nobody bothers to say this publically. But seeing international night as a banality misses the point, as its real function is to set up the illusion of a level playing field. In seeing a panorama of national or 'ethnic' costumes, the very inequities by which the international school functions are officially forgotten. The Italians serve caprese salad next to the Ethiopian stewed goat. The question becomes who is more connoted by their food? The more of an 'other' you are, the more people flock to your food table. But if international night is recognized as a farce (and it is), why is it allowed to continue? The answer is to confirm the exotic, to confirm it to all—but not openly to the public space as taking down international relations is serious business! International night depoliticizes, turning nations into monomers, and only then can diplomatic relations enter the classroom, clouding oppressions with 'we are not a problem'.

At this school, teachers from Ukraine earn three times less for equal work. Basic logic dictates that workers who do the same work in the same conditions deserve the same pay; however, the salary difference between Ukrainian and expat teachers grew during my time at the school. This material imbalance was kept in place by the justification that if a teacher had taught in two or more countries, they were entitled to an expatriate salary. However, the school's logic breaks down as soon as an expat teacher from Amsterdam or Montreal is hired directly out of the university, or their local school districts, as these teachers begin receiving expatriate pay without meeting the requirements for an expatriate salary (they have taught in a maximum of one country only). It is a sign of pure ideological success when a simple quantification is openly falsified yet passes for legitimate. And while there were sincere sounding pledges to raise Ukrainian salaries, there was no movement in the school to equalize salaries.

What was most striking (pun intended) was how Ukrainians managed to work alongside expatriate teachers. In one sense it is easy enough to understand, jobs were scarce, let alone jobs where you could almost support yourself. Moreover, to some of the Ukrainian staff, it was fair. Teaching in two countries was the criterion—and they were lacking. One local Ukrainian teacher in my department, who had recently completed her Ph.D., often argued with me about the right of a company to value its workers how it wanted. So although it was clear that a teacher technically did not have to work in two countries to make an expat salary, this false stipulation kept large sums of money out of Ukrainian pockets. Here, as Barthes says, the petite bourgeoisie is unable to imagine the other. And this absence of imagination, sustained by a desire to maintain advantage over another, allowed the faculty and administration of this school to set up grossly unequal material conditions. Backed by power and capital, this lack of imagination was so strong it also functioned on the side the oppressed Ukrainian staff, as some believed, they were lacking some kind of vital teaching knowledge—while in fact they had decades of teaching experience, advanced subject knowledge, and vast understanding of the local community.

At the time, my friends and I were also satisfied with common-sense answers and tautologies. If local exploitation was ever an issue, it was always levelled to a motionless world with phrases like 'This always happens in countries like Ukraine' or 'Business is business' or 'That's the way the world works'. Sadly, we missed a chance to really live in Kyiv.

54.4.3 *False Debates in Science Education (NOS vs. FOS)*

Declaring the true nature of anything is best left to the category of failure—science's never-be-satisfied culture adheres well to this. However, in science education research, homage must be paid to a small list of tenets that are meant to encapsulate science. A list of seven items makes up what is called the 'nature of science' (NOS).¹ There is nothing wrong with lists. They are an indispensable organizing device seen in various places such as the grocery store and the Bible. But lists cannot describe the complexities, controversies, and reality of science just like they cannot summarize art, relationships, history, politics, the mind, the home, or philosophy. Yet science educators have been subjected to debates about the number of list items and even whether we should be talking about *features* of science or the *nature* of science (FOS vs. NOS). These debates become contests between one version of conservatism versus another. It is crucial to ask, what has been deemed indispensable? It is the list as form. There must be a list as if to say: 'science must be something, we know what we are doing'.

However, the inability to debunk a list is a symptom of a larger problem. As science educator Anastasios Siatras notes, science education operates like a *phallosocracy*, a macho sword fight we must all sit down and watch, lest the bullies turn on us. Power is openly exercised, seniority is generally unchallenged, and anti-intellectualism runs rampant. A science that already exists is chosen over conceptions of science yet to be offered. This disciplinary form gives the 'list speaker' the authority, like any good disciplinarian, to dismiss. Other ways of knowing, all dialogue disappears into a chasm for the childish. The items of the list are not directed towards a world to be made; they must overlay one that is already made, and then bury the traces of this production under a self-evident appearance. The debates force us into an impossible position as the critic, as we must inevitably say we want neither FOS nor NOS. Since they are the same, I am exiled to a new realm separate from them. I am forced outside the content of a false debate.

¹ These tenets are that scientific knowledge is tentative (subject to change); empirically based (based on and/or derived from observations of the natural world); subjective (theory laden); partly the product of human inference, imagination, and creativity (involves the invention of explanation); and socially and culturally embedded (Abd-El-Khalick et al. 1998, p. 418).

54.4.4 *The Rubric*

What used to be red-inked instructions for correctly reading medieval religious texts has now become a measuring device for the work of the student. For all meaningful pieces of school work, there is now a rubric, graded criteria leading to a score. These days, students must be given their rubric. What they strive for has to be measurable, locatable on a grid; explanation is given secondary importance. Rubrics use the language of accounting to systematize the relationships between power and grading, concealing the messiness of things and a connection to worlds that matter. It is the move from one-dimensional ideology to two, from the percentage to the grid.

Allowing children to participate in their own quantification, and further alienation from their work, is consistent with new forms of self-discipline. Students are never involved in the decision to *have* a rubric, nor can they change the overarching standards and skills to be acquired; they simply determine how they will show what is already expected of them. Nowhere have I seen rubrics with the following descriptors: tangibly improved the lives of others; rendered a fundamental problem/error with curricular or teacher assumptions; challenged the authority of large institutions.

The rubric's language is binaric; descriptors are either attained or not, and after the addition of good descriptors, a score is rendered. The goal of the rubric is to, each time, invent equality anew. Poor is equidistant to mediocre which is equidistant to excellent; they involve the same step from the middle (and so distance becomes the location of ideology). The rubric places everyone geographically; students are not only interpellated but also told they can move (to the good spaces) only by upping their count of good qualifiers. The rubric is a response to the lack of accountability of the one-dimensional percentage: 78, 95, 55, 40, and 65. Here the form, the number itself, could be filled with whatever content (ideology) happened to fill it. However, the mythology of the grade and the professor was at the very least a somewhat open one, an openly empty(ing) practice. For the rubric, the mythology is *qualification*, used to marshal in a regime of *quantification* and a 'you need more of this' culture. Now with rubrics, no work's uniqueness can be seen outside of a grid because alternatives to their qualifiers do not exist. All ambiguity fades away, leaving the rectangular shape of a curricular subject.

54.5 Conclusion

Writers can creatively push the limits of what is given to us as natural by considering Roland Barthes' mythologies both theoretically and as a model for writing. Following Barthes, we can look for what is given to us as natural and the connotations that inhabit 'what goes without saying'. Those who engage in myth reading and writing do not have to take all the ideological and semiological aspects of Barthes' notions of myth as each aspect can function as a separate tool for challenging what

is taken for granted. The four pieces of educational myth(ologist) writing above are just an example of how Barthes' mythologies can inspire us to challenge what is possible in an education culture where many things are purported to be common sense. As Slavoj Žižek (2011) maintains in *Living in the End Times*, our current struggle 'is against the global order and the ideological mystification that sustains it' (p. xv). The call for educators to become mythologists can be seen as part of this struggle. Challenging myths in education is necessary for radical change as myths, for whatever other good they may do, will always impede (re)imagination.

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Jesse Bazzul is assistant professor in STEM education and teacher development at the University of Massachusetts Dartmouth. His interdisciplinary work uses critical theory to explore issues in science and technology. He has taught science and mathematics in diverse settings, including China, Ukraine, and Canada.

Chapter 55

Edusemiotics and the Language of Images

Inna Semetsky

Edusemiotics as a term stands for educational semiotics and indicates a novel interdisciplinary field of inquiring into the nature of signs in the context of educational philosophy and theory. Coined by Marcel Danesi (2010), it referred to my initial research efforts (Semetsky 2010c) toward “sculpting a veritable *edusemiotics for the future*” (Danesi 2010, p. vii; italics in original). Danesi commented that “until recently, the idea of amalgamating signs with learning theory and education to establish a new branch, which can be called *edusemiotics*, has never really crystallized, even though the great Russian psychologist Lev S. Vygotsky had remarked... that the ‘very essence of human memory is that human beings actively remember with the help of signs’.... In these words can be detected the *raison d’être* for establishing a connection between *semiotics* as the science of signs, *learning theory* or the science of how signs are learned, and *education*, that is, the practical art/science of teaching individuals how to interpret and understand signs” (Danesi 2010, p. vii). Research in edusemiotics has been steadily developing worldwide, and as a novel branch of theoretical semiotics—alongside biosemiotics, ecosemiotics, and the likes—edusemiotics has been launched at the twelfth World Congress of the International Association for Semiotic Studies at New Bulgarian University, Sofia, in September 2014. A volume coauthored with philosopher of education at the University of Roehampton, Andrew Stables, and titled *Edusemiotics: semiotic philosophy as educational foundation* was published by Routledge.

Edusemiotics does not limit itself to the analysis of formal education, but addresses informal or cultural pedagogy outside the walls of traditional classrooms. Popular culture often serves as an educational resource (cf. Silberman-Keller et al. 2008), including broad phenomena especially significant in the process of identity

I. Semetsky (✉)
University of Waikato, Hamilton, New Zealand
e-mail: irs5@columbia.edu

formation and human development within postformal education and requiring novel rigorous research methodologies (Steinberg et al. 1999) such as *bricolage* (Kinche-loe 2001, 2008). It is a *bricoleur* who acts as the first explorer, tries new strategies, and opens new avenues for educational research, while also taking an ethical stance of helping people in reshaping their lives. Doing bricolage involves marginalized practices and the development of transgressive conceptual tools as well as exploring the breadth and wealth of typically underestimated human cognitive capacities. This chapter addresses just one such marginalized practice that exists at the level of popular culture: The bricolage of Tarot images and their interpretation known in popular parlance as Tarot readings.

The process of interpreting Tarot signs, symbols, and images indicates specific hermeneutics. Etymologically, the Greek words *hermeneuein* and *hermeneia* for interpreting and interpretation are related to the deity Hermes, a messenger and mediator between gods and mortals, who crosses the thresholds and traverses the boundaries because he can “speak” and understand both “languages,” the divine and the human, even if they appear totally alien to each other. Hermeneutics is not reduced to the interpretation of verbal texts but applies to any semiotic systems, such as symbols, images, or cultural artifacts, with the aim of discovering their deep and hidden meanings. Semiotics generalizes signs as embedded in any medium or sensory modality, hence not only broadening the range of sign systems and sign relations but also simultaneously extending the very definition of language to include its analogical or metaphorical sense. The centrality of relations is a distinguished feature of semiotics: Signs are relational, Janus-faced, entities that need to be interpreted in order to acquire meaning. The interpretation of Tarot signs, images, and symbols contributes to “understanding of a symbol...by a personal effort of progressive elucidation through several successive levels, i.e., by a form of hermeneutics” (Faivre 1994, p. 5).

A head start to the specifically educational value of Tarot as a system of signs was provided during my presentation at the 1999 annual meeting of the Semiotic Society of America (SSA) where, while still a postgraduate student, I read a paper titled “The adventures of a postmodern Fool, or: the semiotics of learning,” which showcased the first picture in the Tarot deck called The Fool, and which subsequently received the first Roberta Kvelson Memorial Award for its contribution to the research program promoted by the SSA. According to the *Encyclopedic Dictionary of Semiotics*, edited by Thomas Sebeok, Tarot readings belong to “a branch of divination based upon the symbolic meaning attached to individual Tarot cards... interpreted according to the subject or purpose of a reading and modified by their position and relation to each other from their specific location in a formal ‘layout’ or ‘spread’” (Sebeok 1994, Vol 1, p. 99). Such definition, while acknowledging the images’ symbolic meanings, still reflects a rather stereotypical perception of Tarot reduced to mere fortune-telling (cf. Lecomceva and Uspenskij 1977; Heeren and Mason 1984) as “a specific instance of persuasive dyadic human communication” (Aphék and Tobin 1989, p. 175). This is a perception that I have been sys Edusemiotics of Images: Essays on the Art tematically deconstructing in the course of my research summarized in my recent books *Re-Symbolization of the Self: Human*

Development and Tarot Hermeneutic (Semetsky 2011a) and *The Edusemiotics of Images: Essays on the Art~Science of Tarot* (Semetsky 2013).

According to contemporary cognitive scientist and semiotician Jackendoff (2001), who holds an ecological perspective on mind, even verbal utterances should be understood semiotically rather than strictly linguistically, that is, in terms of their establishing a relation between a conscious mental representation as an expression and an unconscious, or hidden, message. *Making the unconscious conscious is the prerogative of Tarot edusemiotics*. In brief, the Tarot sign system consists of 78 images called arcana, the 22 major arcana and the remaining 56 minor. The meaning of the word arcanum (singular) is this creative, but often missing or obscured element in our experiences, which is necessary to know, to discover in practical life so as to become fruitful and creative in our approach to multiple life tasks situated in the midst of experiential situations, events, and our complex relationships with others when we face decisions and choices or encounter moral dilemmas. What is called a Tarot layout is a particular pattern full of rich symbolism; with images “embodying” intellectual, moral, and spiritual “lessons” derived from collective human experiences across times, places, and cultures. Yet the moral of these symbolic lessons—the very meanings of Tarot signs—may be hiding deep in the midst of the field conceived by psychologist Carl Gustav Jung as the collective unconscious. Jung commented that the Tarot images “were distantly descended from the archetypes of transformation” (Jung 1953–1979, CW 9, 81). Jung’s student Nichols (1980) in her book on Jung and Tarot pointed out the correlations between Petrarch’s sonnets and the major arcana, the images of which are sometimes called trumps. Trumps means triumphs, and in Petrarch’s sonnets a series of allegorical characters each fought and triumphed over the weaker preceding one, each image symbolically winning over its own precursor by the characters becoming emotionally stronger, more resilient, and more conscious after overcoming the challenges of emerging life-cycle issues.

Images and pictures belong to the category of signs (e.g., Posner 1989). Even a single photographic image is polysemous, that is capable of potentially acquiring diverse meanings depending on its interpretation in the varieties of broad contexts that may adopt a specific cultural code. According to Roland Barthes’ now-classic example of the photo of the bald eagle, a physical image serves as a signifier, while the concept per se of the bald eagle is the signified. The photographic image of an eagle as such, representing what Barthes would have called the level of denotation, is a sign or a signifier. But, importantly, it is also signified at the higher-order level of possible connotations; as such, the signified is polysemic and may connote a plurality of meanings. Functioning as a potential signified, the sign is characterised by a surplus of signification: It may mean either patriotism or be a symbol of the American flag, or represent endangered species, or whatever else might be associated with it in a given cultural code, thereby producing a sign called by Barthes an associative total. Despite the form remaining the same, the conceptual content—or a sign’s meaning—is polyvalent. The same reasoning applies to the interpretation of Tarot images. Tarot pictures, when laid down in a particular spread, comprise a pictorial text that as such has its own syntax, semantics, and pragmatics even if not in a written linear alphabetic form. Yet, “[b]efore there was writing there were

pictures” (Shlain 1998, p. 45); and according to the Chinese proverb, one image may be worth a thousand words. Indeed, “pictures have a continuous structure [that] induces the reader to...read the picture as if it were a written text” (Posner 1989, p. 276); this interpretive or reading process, leading to the production of meanings for human experiences, is “voiced” by the language of Tarot images. It is on the basis of this theory that the claim can be made for Tarot representing a modality of cultural pedagogy and informal learning from experience by means of interpreting the symbolism of the pictures and discovering their meanings (Semetsky 2011a). Learning from signs demands their reading and interpretation at the level of practical action in search for the deepest meanings of experience. This informal learning is marked by Tarot symbolism.

Each Tarot image implies a moral dimension pertaining to what Dewey (1922/1988) called human conduct. Becoming aware of the deep meanings of our experiences that were hiding deep in the unconscious serves as a powerful motivational force to facilitate changes and transformations at our emotional, cognitive, or behavioral levels, and thus to accomplish an important ethical and educational objective. As the images denote archetypes of the collective unconscious or the universal *memory*-“containing” experiences gained by humankind in the course of its history, their significance crosses the barriers between times, places, and cultures. The universality of the Tarot themes reflects the view of transpersonal psychology that basic human values are cross-cultural and include “the commonalities of birth, death, physical and emotional needs, and the longing to be cared for. This last—whether it is manifested as a need for love, physical care, respect or mere recognition—is the fundamental starting point for the ethics of care” (Noddings 1998, p. 188). In the context of feminine moral philosophy and care theory in education, world-renowned philosopher of education Nel Noddings pointed to such common global human experiences as birth, marriage, motherhood, death, or separation, even while denying abstract moral universals when they are understood solely as some predestined rules for our actions. These archetypal—typical—experiences are reflected in the symbolism of the pictures. Importantly, the *abstract* universal principles as a theoretical construct acquire embodied reality as *concrete*, particular, real-life human experiences embedded in our practical lives, thereby defying the Cartesian substance dualism.

In the semiotic framework advanced by pragmatic philosopher Charles Sanders Peirce, meaning is produced in the *triadic* relation between a sign and its object when mediated by the inclusion of a third category called by Peirce an interpretant. Genuine signs have a relational structure in which a sign corresponds with, or relates to, its object. A relation as an ontological category rejects substances as “furniture of the world.” Peirce stated that the universe is “perfused with signs, if... not composed exclusively of signs” (Peirce, CP 5. 448). Likewise, the prevalence of relations and correspondences is a feature of Hermetic philosophy also known as Western esotericism (Faivre 1994; 1995). In contemporary culture, integral or holistic educational practices that embody meanings and values are usually informed by Eastern philosophies such as Buddhism or Taoism; while Western esoteric tradition is heavily under-researched in education. Antoine Faivre, professor at the

Ecole Pratique des Hautes Etudes at Sorbonne, whose research on Western esotericism (Faivre 1994) is the first systematic treatment of Hermetic tradition published in English, positions Tarot within this philosophical framework and presents it as one of the forms of intuitive gnostic knowledge. Faivre demonstrates that “Tarot, a specific art... is a subject of extensive literature, both scholarly and popular, and increasingly suffuses our culture [and] through a hermeneutic of situations and characters, it... opens out upon a gnosis” (1994, p. 96).

Noddings (1993; Noddings and Shore 1984) refers to gnostic knowledge in connection with feminine spirituality and revisits the ancient “Know Thyself” principle: “when we claim to *educate*, we must take Socrates seriously. Unexamined lives may well be valuable and worth living, but an *education* that does not invite such examination may not be worthy of the label education” (Noddings 2006, p. 10, italics in original). Still, more often than not, education is equated with formal schooling (for children) or perpetual training (for adults), thus a priori marginalizing the realm of lifelong human development and experiential learning situated amidst real-life situations. Such deep inner knowledge according to Hermetic tradition can be achieved by means of *self-reflection* embodied in the interpretation of Tarot symbolism. Genuine signs do have a self-referential, enfolded, structure due to the included middle. The Russian-born philosopher and mathematician Peotr Ouspensky, whose papers are presently held in Yale University Library Manuscripts, posited Tarot primarily as a three-folded metaphysical system indicating the relation between a human soul, the physical or phenomenal world, and the world of ideas or the noumenal, divine or spiritual, world. Ouspensky (2008) pointed out that Tarot symbolism cannot be learned in the same way as one learns to build bridges or speaks a foreign language: The interpretation of symbols requires the power of creative thought, intuition, and imagination.

Still, Tarot tends to stay at the level of pop culture as just a low-status practice even as contemporary Irish philosopher Hederman (2003) does relate Tarot to education and highlights it as being one of the most important, even if elusive, symbolic systems. Hederman contends that “each of us should be given at least the rudiments of [Tarot] if we are even to begin to understand human relationships. This would require tapping into a wavelength and a communication system other than the cerebral, reaching what has been called the ‘sympathetic system’ as opposed to the cerebro-spinal one which covers the three Rs of traditional education” (2003, p. 87). Tarot edusemiotics, in contrast to the three Rs of conventional education, encompasses what I call the three Is model (Semetsky 2011b) and that does enrich education with intuition, insight, and imagination. Gnosis involves both “intuition and the certainty of possessing a method permitting access to such [deep, inner] knowledge” (Faivre 1994, p. 19); this method is the educational semiotics of Tarot readings.

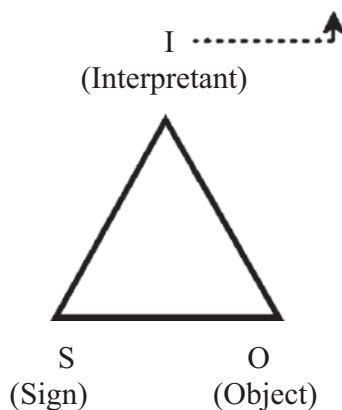
Intuition partakes of Peirce’s abductive mode of inference (cf. Semetsky 2005) and is central for reading and interpreting Tarot nonverbal messages, therefore, helping us to convert real-life problematic situations “from the obscure into clear and luminous” (Dewey 1934/1980, p. 266). Dewey considered intuition to be a part and parcel of experiential inquiry, and it is in the process of Tarot edusemiotics that “the

implicit is made explicit; what was unconsciously assumed is exposed to the light of the day” (Dewey 1991a, p. 214). In contemporary discourse, abduction is usually described as an inference to the best explanation (e.g., Hintikka 1998; Magnani 2001). Peirce, however, emphasized the feeling tone of abduction saying that every abductive inference involves a particular emotion: “the various sounds made by the instruments in the orchestra strike upon the ear, and the result is a peculiar musical emotion.... This emotion is essentially the same thing as a hypothetic inference” (Peirce, CP 2. 643). Peirce noticed that “the first premise is not actually thought, though it is in the mind habitually. This, of itself would not make the inference unconscious. But it is so because it is not recognized as an inference; the conclusion is accepted without our knowing how” (Peirce, CP 8. 64–65), as if intuitively.

Peirce compared abduction with the “insight of females as well as certain ‘telepathic’ phenomena.... Such faint sensations ought to be fully studied by the psychologist and assiduously cultivated by every man” (in Hacking 1990, p. 206). It is by virtue of abduction that a genuine Tarot reader can translate the silent language of images into a spoken word. The interpretation of images produces meanings as significant messages; and it is “the constitution of messages [that] forms the subject matter of semiotics” (Sebeok 1991, p. 22). Tarot sign system functions as a semiotic bridge that forms a relation between what we tend to perceive, in the tradition of Cartesian dualism, as binary opposites that supposedly can never be reconciled such as mind and body, subject and object, self and other, or, on the metaphysical scale, the human and the divine. Two separate Cartesian substances—*res extensa* (corporeal; material; body) and *res cogitans* (incorporeal; immaterial; mind)—become connected and interrelated via the dynamics of semiosis; the name given by Peirce to the action of signs in nature, culture, and the human mind.

As artifacts, the Tarot pictures are the products of *technê* from the Greek word for craftsmanship or skill. The ancient Stoics developed the idea that virtue itself is a kind of *technê* or *craft of life* based on proper understanding of the working of the universe. The artificial pictures are the signs that *stand for* (as signs sure enough are supposed to do) real experiences embodied in the array of images representing ancient virtues as the craft of life. The interpretation of Tarot images produces practical effects in the form of meanings for experiences and accords with Peirce’s pragmatic maxim: “Consider what effects, that might conceivably have practical bearings, we conceive the object of our conception to have. Then our conception of these effects is the whole of our conception of the object” (Peirce, CP 5. 402). Tarot images symbolically represent those significant but often hidden-from-view human experiences, the meanings of which when discovered in the process of interpretation, assist people in negotiating complex relationships with others when facing decisions, choosing the course of action, or encountering moral dilemmas. Yet, “it must be admitted...that no one has ever been able to explain *how* it [Tarot] works” (Gettings 1973, p. 9; italics in original). It is edusemiotics that not only explains the functioning of Tarot but also asserts it being structured as a genuine Peircean triad (Fig. 55.1) in which a sign and what it stands for, its object, are connected by virtue of an interpretant as the included middle:

Fig. 55.1 A genuine sign



Notably, each sign can always be further interpreted thus addressing a future dimension of experience which is usually suspect in formal, dyadic, logic grounded in direct, unmediated, representation. Significantly, Peirce defined “interpretant [as] the future memory of [one’s] cognition, his future self” (Peirce, CP. 7. 591). This untimely, future-oriented, dimension is peculiar to semiotics in general and to Tarot edusemiotics in particular. If we literally step out of our Cartesian minds forever separated from the world and connect in practice with the material world of our lived experience—as we sure do in the process of Tarot edusemiotics—then we assume a position of what I call “radical objectivity” as encompassing us, human subjects, and which is structurally analogous to the implications of the so-called triangle argument (Fig. 55.2) constructed on the basis of Einstein’s relativity:

The structure of the triangle partakes of Peirce’s triad with the simultaneous relation established between “me now” and “me tomorrow” as if between a sign and its object; however, not via the proverbial view from nowhere (supernova), but via the here and now of a semiotic interpretant represented by the layout of Tarot images that mediates between self and other, between conscious and the unconscious, between past and future, and that combines all aspects of time simultaneously thus enriching our usual chronological time with its philosophical, atemporal or timeless, dimension.

As pictorial artifacts, Tarot images represent multiple meaningful patterns of thoughts, affects, emotions, feelings, and behaviors, thus embodying the very values implicit in collective experiences, the symbolism of which transcends cultural and language barriers. Reading and interpreting diverse cultural “texts” embodied in Tarot images partakes of semanalysis—a term coined by French cultural theorist and semiotician Julia Kristeva (cf. Nöth 1995). Semanalysis is a portmanteau word referring to both semiotics and psychoanalysis and emphasizing interpretation and becoming conscious of the unconscious. Kristeva’s concept “subject in process” would have challenged a self-conscious subject as the fixed product of the traditional educational system. Human subjectivity is continuously produced in experience: Tarot edusemiotics is equivalent to constructing and, respectively,

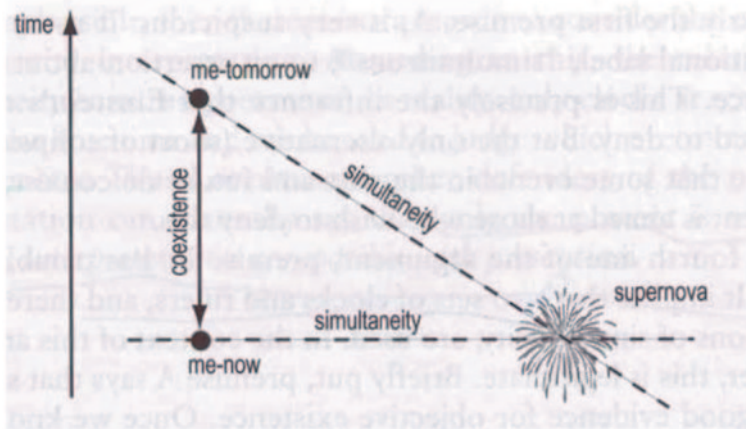


Fig. 55.2 The triangle argument. (Reproduced with permission from Fig. 5.3 in Kennedy 2003, p. 63)

learning “critical lessons” (Noddings 2006) that, in their symbolic form, are embedded in the semiotic process of human experiential growth, both intellectual and ethical. Noddings (2010a) addresses a maternal ability to “read” her children as the “capacity for ‘empathy’” (p. 6) and an instinct for survival in the course of human evolution pertaining specifically to “the maternal factor,” which is the title of her recent book. She refers to “the ‘reading’ process” (2010a, p. 53) in terms of cognitive apprehension motivated by love and accompanied by the attitude of care and “empathy [as] the constellation of processes” (p. 56) that connects Self and Other in a relation, which is as such necessarily “ontologically basic” (also 1984/2003; Noddings 2010b, p. 390).

Applying a semiotic logic of relations to reading and interpreting Tarot signs permits us to emphatically *relate* to something essentially *other* but nevertheless potentially understandable, knowable and, ultimately, known. The relation thus established between the generic self and other in our real practical life is significant and has both epistemological and ontological implications. The dimension of foremost importance is, however, ethical, considering that we live in a time of globalization and uncertain multiculturalism with different values continuously competing, conflicting, and clashing. In our current global climate permeated by diverse beliefs, disparate values, and cultural conflicts, understanding ourselves and others and learning to *share* each other’s values is as paramount for the survival of our species as is the maternal instinct for the survival of helpless babies. We can awaken such a maternal caring attitude towards others at both individual and social levels via the medium of Tarot: As Marshall McLuhan famously made clear, the medium is the message. Rather than being “merely a passive conduit for the transmission of information, [a medium of communication is] an active force in *creating* new social patterns and new perceptual realities” (Logan 1986, p. 24; italics mine). Such creative logic, foregrounding semiotics, is the paradoxical and at first sight

self-contradictory logic of the included middle, the included third, in contrast to the propositional logic of analytic philosophy grounded in the principles of non-contradiction and the excluded middle. Therefore, Tarot, despite being traditionally perceived as mystical and irrational, is still *logical*. Its logic is a semiotic logic of the included middle that exceeds narrow instrumental rationality.

While Tarot helps us in achieving an expanded and intensified scope of awareness that encompasses the level of meanings and values—that is, the realm of human subjectivity—it is not altogether foreign to scientific—read, objective—reason: Semiotics is defined by Peirce as “the science of the necessary laws of thought, or, still better (thought always taking place by means of signs), it is general semeiotic, treating not merely of truth, but also of the general conditions of signs being signs” (Peirce CP 1. 444). We learn from our experiences that are symbolically embodied in pictures and express themselves in the language of images. The embodied knowledge is a province of semiotics: It is the “Third or mediation” (Peirce, CP 6.7) that connects the otherwise binary opposites of subject and object, mind and matter, self and other. Dewey (1916/1924) stated that “to ‘learn from experience’ is to make a backward and forward connection [that]...becomes instruction—discovery of the connection of things” (p. 164). The absence of formal instruction makes learning from experience via Tarot signs a modality of informal education oriented to making connections between disparate facts of experience so as to discover its meaning or value; facts and values coalesce!

Peirce defined intelligence as scientific if it could use signs and be “capable of learning by experience” (Peirce, CP 2. 227). Deely (2001) points out that Peirce’s triadic semiotics is rooted in science rather than mysticism and emphasizes that, for Peirce, *logic*—notably, triadic logic as semiotics—is an *ethics* of thinking and is inseparable from human conduct, that is, *ethics* as the *logic* of our actions in the world. Tarot edusemiotics entails the ethical dimension as pertaining to both our thinking and acting. Peirce’s semiotics as the ground for interpreting Tarot images presents logic not as the logicians’ invention but as a *ratio* which is always already embedded in human *praxis* and natural world alike: The whole universe is perfused with signs connected in one coherent whole via the network of relations. Grounding Tarot as a semiotic system of signs, images, and symbols in Peirce’s logic makes this phenomenon open to explanation in rational—and not irrational as it is habitually perceived—terms. Sir Michael Dummett, famous British philosopher of language and one of the pioneers of the twentieth-century linguistic turn in philosophy has a great interest in what he called Tarot history and mystery (Dummett 1980); he, however, presented Tarot as a cultural card game, hence located it outside specific philosophical claims. Taking the “edusemiotic turn,” however, not only reverses a disadvantaged status of the image as a result of its takeover by verbal signs in the course of modernity but can also overcome the persistent philosophical pessimism expressed yet by Wittgenstein who insisted that what we cannot talk about we must pass over in silence (cf. Semetsky 2010a).

The relationship between word and image has been historically, philosophically, and ideologically troubled (Shlain 1998). While Neoplatonic philosophy privileged images, modern analytic philosophy of language grounded in the dyadic logic of the

excluded middle presented verbal signs as the sole means of directly representing reality. It is important to repeat that the semiotic turn is not illogical. The process of reasoning, however, is indirect or mediated: Peirce's logic as semiotics is triadic or analogical, and involves interpretation versus direct representation. In contrast to Hermetic or Neoplatonic philosophy for which the principle of analogy was central, for the modern Western philosophy, historically, "there could be no *tertium quid*" (Merrell 2002, p. 204) as a triadic relation between the two (usually perceived as opposites) things. This *tertium* as a distinguishing feature of both Western esoteric thought and of Peirce's semiotics is grounded in the logic of the included middle, the third category performing the function of reconciliation, analogy, or correspondence between what dualism posits as the opposites of A and not-A, self and other.

Analyzing the historically evident conflict between word and image, Shlain (1998) notices "the plunge in women's status" (p. viii) as contingent on literacy taking over nonverbal means of expression, such as image. Even if the development of literacy has been habitually equated with progress, "one pernicious effect of literacy has gone largely unnoticed: writing subliminally fosters a patriarchal outlook. Writing...especially its alphabetic form, diminishes feminine values and with them, women's power in the culture" (Shlain 1998, p. 1). Shlain reminds us of anthropologist Claude Lévi-Strauss challenging the supremacy of literacy and insisting that the establishment of hierarchical societies was linked to the appearance of writing: "misogyny and patriarchy rise and fall with the fortunes of the alphabetic written word" (Shlain 1998, p. 3). Noddings (2010a), describing the two paths to morality in the context of education, expresses a hope for the convergence between traditional and feminine ethics, the latter naturally grounded in caring relations. She points to the maternal, feminine, capacity for "reading the emotional state, needs, and intentions of others" (Noddings 2010a, p. 170) and notices that with appropriate guidance such empathic capacity can be brought to a high level. My research demonstrates that it is the Tarot sign system that can indeed provide the required guidance when a reading assumes the function of an educational aid or a counseling tool that can contribute to human development (Semetsky 2011a); but also by virtue of its potential ability to bring back the *becoming-woman* (using Gilles Deleuze's poignant expression; cf. Semetsky 2006; Semetsky 2010b) as symbolic of the revitalization of society that has long been subscribing to a solely masculine world view embedded in "*linear, sequential, reductionist, and abstract thinking*" (Shlain 1998, p. 1; italics in original).

Tarot edusemiotics brings into being yet another, complementary, perceptual mode in terms of "*holistic, simultaneous, synthetic, and concrete*" (Shlain 1998, p. 1; italics in original) qualities that appear to have been lost in the course of modernity during which the verbal word became the major medium of communication. Human subjectivity is produced in relations, both literal and symbolic. Learning to read the symbolic language of Tarot signs equips us with the ability to understand the deepest meanings of individual and collective life experiences. The implications for human evolution within the process of semiosis and the expansion of consciousness are profound. It is the edusemiotic process of reading and interpreting Tarot images that establishes a semiotic bridge between the consciousness and the

unconscious. We become aware of the unconscious structures of experience that as such begins “making sense” for us because it is “sense [that] is the mediator of the referent” (Nöth 1995, p. 89) due to the inclusion of a semiotic interpretant. A pictorial phrase, another one, yet another, unfold into a narrative describing a symbolic school of life. Tarot layout per se functions as a visible, material link in a signifying chain of a larger symbolic order. It represents a synchronic slice within diachronic, *ex Memoria*, unfolding of signs that comprise *semiosphere* (Lotman 1990; Hoffmeyer 1993). When past, present, and possible future are combined together, we not only observe but also, via a triadic relation formed by “the observer, the observing, and the observed” (Dewey 1991b, p. 97), consciously *participate* in the edusemiotic process of our evolution and growth: growth in moral knowledge and intelligence.

Russian semiotician of the famous Moscow–Tartu school Yuri Lotman (1990) referred to intelligence as determined by three functions: The transmission of textual information, the creation of new information, and *memory* as a capacity to preserve and reproduce information. The Tarot layout is a pictorial text transmitting available information encoded in signs, which is being preserved or virtually stored in the diachronic depths of the collective unconscious, the *Memoria*. During readings, this text is reproduced for the purpose of re-creating this information: To revive the memories of the past and the memories of the future, both coexisting in the present. The information, even if conserved in the field of the collective unconscious, is being redistributed thereby leading to the appearance of a new “chapter” in the “text” of human experiences as if being written anew by the subject of the reading. It is the thirdness of interpretation that “brings information ... [it] determines the idea and gives it body” (Peirce, CP. 1. 537) in the physical world. The edusemiotics of Tarot represents our *embodied* cognition and as such is capable of “rendering literally visible before one’s very eyes the operation of thinking *in actu*” (Peirce, CP. 4. 571).

The structures of narrative knowledge produced “*in actu*” in the process of Tarot edusemiotics pertain to the “women’s ways of knowing” (Belenky et al. 1986) related by educational philosopher Maxine Greene to the healing arts that allow us to “come face to face with others” (Greene 2000, p. 31) in a relation. Yet, modern liberal education tends to focus on scientific facts at the expense of intuitive, feeling, and caring aspects that contribute to making sense of, and assigning value to, our many experiences. Contemporary semiotician Eero Tarasti (2001) posits anxiety as a problem of the semiotic subject who may face, according to the tradition of existentialism, either being or nothingness. What many people bring to their readings is in fact a number of existential problems even if more than often they lack the words to express their concern with a particular situation or a significant other. Not being existential philosophers or semioticians, they may remain in denial about the real state of affairs. The signs of anxiety may be hidden deep in the unconscious, while creating a demonstrable world of symptoms at the level of affects. Among the Tarot arcana, there are indeed those carrying the existential motifs, such as feelings of insecurity, anger, depression, frustration, anxiety, confusion, “pain in the neck”, exhaustion, being overwhelmed, indecisive, etc; and the edusemiotics of images brings those affective states into sharp focus. For example, the image in Fig. 55.3 indicates impasse that may sometimes become even the dark night of the soul, as per the image in Fig. 55.4.

Fig. 55.3 Two of swords.
 (The images in Figs. 55.3 and 55.4 are from Rider-Waite Tarot Deck. (Reproduced by permission of US Games Systems Inc., Stamford, CT 06902, USA. Copyright 1971 by US Games Systems, Inc. Further reproduction prohibited)



Fig. 55.4 Nine of swords



Yet the lived-through experience during the edusemiotic process of interpretation leads to the evolution in meaning that can transform nothingness into being. Using the language of “images [as] the balm bringing about the worldwide healing” (Shlain 1998, p. 432), we can not only practice the maternal value of caring but also address the deepest existential concerns at both individual and collective levels. It is on the basis of such, historically utopian, universal language—the language of images—that humankind can re-create the harmonious, peaceful, and prosperous Golden Age when people were united by the same language and the same understanding of the nature of the universe.

While the expressive means of “graphic symbols (which include iconic and indexical signs) are a semiotically still largely unexplored field of research” (Nöth 1995, p. 219), it is the novel discourse in edusemiotics that demonstrates “criticism

at its best...displaying the rich art of evaluating and analyzing with knowledge and propriety the works of civilization” (Deely 1990, p. 82). Among these works of civilization, the Tarot semiotic system is one of the oldest, thereby strongly defying its perceived status as merely a card game or fortune-telling device. Understanding the Tarot nonverbal language should become the core of research in edusemiotics so that not only better understand ourselves in our complex relations with others but also establish what Winfried Nöth designated as “intercultural competence” (Nöth 2010, p. 9). This is an urgent matter in the present geopolitical context that exhibits diverse and polyvalent signs of the times amidst cultural conflicts and apparently incommensurable values. Yet, cultural relativism surrenders under the fact that Tarot arcana embody universal human experiences. Understanding the language of images and applying this knowledge at the level of practice can provide the opportunity to enrich human life with values that are shared. The edusemiotic perspective is not only timely but also absolutely necessary in the world, which is always already perfused with signs.

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Inna Semetsky has a PhD in philosophy of education from Columbia University, New York. She is currently a professor at RosNOU (Russian New University), Moscow, Russia, and adjunct professor with the University of Waikato, New Zealand. During 2005–2007, she was postdoctoral research fellow in Monash University and during 2007–2012—research academic at the University of Newcastle (Australia). She received the first Kevelson Memorial Award from the Semiotic Society of America. In addition to numerous articles in academic journal and book chapters, she published seven scholarly books. She is on the editorial boards of several international journals including *Educational Philosophy and Theory*, *Studies in Philosophy and Education*, and *The European Legacy*. Some of her publications can be accessed at <https://columbia.academia.edu/InnaSemetsky>

Chapter 56

Semiotics of Western Education

David Kergel

56.1 Education and Society

Education possesses a central meaning for the reproduction process of societies. Via education, the individual gets “introduced” or—in more contemporary terms—*subjected* within societies and their symbolic orders. Education ensures the reproduction of society, based on the specific socialization of individuals. Following the premises of Culler that “(...) everything which is meaningful within human cultures can be treated as a sign” (Culler 2001, p. 38), it is possible to analyze this relation via a semiotical orientated methodology. Such an analysis enables to “(...) understand social and cultural phenomena (...)” (Culler 2001, p. 34) and thus “(...) to grasp their place and function in various systems of activity and to identify the distinctions which gave them significance” (Culler 2001, p. 34).

A society acknowledges itself via a semiotic system/a specific code. On a macro-level, societies need a system of meaning, a “self-narration” which legitimizes the society and its institutions, its laws, its hierarchies, and social practice as such. Without such a self-narration, societies would be reduced to a pure functional context—and lose the emotional identification of the individuals.

The individuals performatively reproduce in their everyday life the hierarchies of society.

Society or rather its hierarchies are subsequently manifested in its social practice. Due to the fact that this performative practice reproduces meaning, it is also a semiotical practice which needs to be analyzed: “One must be able to identify effects of signification—the meaning objects and events have for participants and observers” (Culler 2001, p. 53).

Further, a semiotical practice is historically bound, and produced by a society within its self-understanding discourses and semiotical manifestations like the

D. Kergel (✉)

Institute for Pedagogy (eDidactics and self-determined Learning), Carl von Ossietzky Universität Oldenburg, Ammerländer Heerstr.138, 26129 Oldenburg, Germany
e-mail: kersop@gmx.de

judicial system. The meaning of a society not only exists in a pure cognitive dimension but also has an emotional impact. For instance, the legal bases grounds and performative reproduces a value system, which provides for the individuals orientation, security, and an emotional connection to the legal bases: Laws are not barely functional, but metonymically represent the value system of a society and therewith the self-understanding of a society. A society possesses meaning that manifests in signs and in a meaningful acting/practice, which can be understood as a semiotical practice.

If we are to understand our social and cultural world, we must think not of independent objects but of symbolic structures, systems of relations, which by enabling objects and actions to have meaning, create a human universe. (Culler 2001, p. 28)

56.2 Education and Civil Society

Within this context, education possesses a central meaning: Education as “aimed socialization” (cf. Durkheim 1972) socializes the individuals into a society and its value system. It is not only a mediating process of values, rules, and laws of a society. Rather, education can be conceptualized as an “inscription process” where the individual incorporates the value system of a society.

In the course of constitution processes of civil society¹, the meaning of education is submitted to a reconceptualization (if not education has been conceptually constituted in course of this period, cf. Ariès 1962): With the increase and establishment of economical power of the bourgeoisie, a self-understanding discourse emerged. This discourse affects different cultural spheres like literature, philosophy, music, and education:

In the literature, the “Sturm und Drang” movement (“Storm and Urge”), which took place within between the late 1760s and the early 1780s, revolted against an alleged superiority of rationality, normative requirements, and stressed the meaning of emotion. It also addressed the freedom of the individual who is in his/her self-determination in contrast to the hierarchies of a feudal system (cf. Kergel 2012).

At the latest with Descartes’ epistemology of strategic doubt, the individual gets the valid point of origin for epistemological research and philosophy. The rational (bourgeoisie) individual and not an ulterior power (like god) is the basis of knowledge.

In music, the text-bound sacral music gets substituted by a nonverbal, more secular orientated music, which required from the audience a new reception practice (cf. Hermann 2004).

¹ Civil society can be understood as the organizational, administrative, and ideological frame of the bourgeoisie which is based mostly on the economical system of a social market economy. Hegel’s *Elements of the Philosophy of Right* (published 1820) can be considered as a first programmatic description of the structure of civil society.

56.2.1 *Rational Society and Rational Education*

All these discourses are secular orientated and focus on the individual and its rational competences. For example, Kant demanded in his essay “Answering the Question: What is Enlightenment?” (1784) that a modern society should function like a machine (cf. Kant 1996, p. 64)—and not according to divine laws. This understanding of social practice is based on the thesis of a *rational individual*. In other words, the sustainability of social practice is based on the rational competence of the citizens: Via a discourse, the people can discuss about societal issues. The result of these discussions in turn has to be incorporated by the ruling power (for Kant, this institution was still represented by the king) and implemented in the social practice, e.g., via legislative power.

This strong emphasis on the rational-based competence of the individual can be interpreted as a strategic demarcation of bourgeois culture towards the established feudal culture. This feudal culture legitimated their power ideologically with the doctrine of divine right. The secular meaning of the individual as an ideological counterpart is part of bourgeois culture and manifests itself also within the reconceptualization process of education which can be summarized as follows: *A rationally based civil society needs citizens who possess rational competence, which in turn means that a rationally based civil society needs to create rational individuals*. In this context, education gets a relevant institution/practice for a secular, civil society. It is possible to demonstrate a neat relation between education and civil society if one refers to philosophical discourses, which legitimate civil society and educational practice from an epistemological point of view: Education civilizes an individual according to the requirements of civil society, which in turn is part of the civilization process of mankind: “It may be that education will be constantly improved, and that each succeeding generation will advance one step towards the perfecting in mankind; for with education is involved the great secret of the perfection of human nature” (Kant 1900, p. 7). Education subsequently “(...) opens out to us the prospect of a happier human race in the future” (Kant 1900, p. 8).

56.2.2 *Semiotical Perspective*

To highlight this reconceptualization of education in the course of the self-understanding processes of civil society, the semiotical analysis of binary oppositions will be used:

In isolating fundamental oppositions (...) Lévi-Strauss is describing codes: sets of categories drawn from a single area of experience and related to one another in ways that make them useful logical tools for expressing other relations. (...) The general implication of this method, which has become a fundamental principle of structural and semiotic analysis, is that elements of a text do not have intrinsic meaning as autonomous entities but derive their significance from oppositions which are in turn related to other oppositions in a process of theoretically semiosis. (Culler 2001, p. 33)

To investigate the semiotic relation of society and education, basic, binary dichotomies are analyzed.

A basic dichotomy of bourgeois education is the polarity between nature/culture; “Discipline changes animal nature into human nature” (Kant 1900, p. 2). Via discipline, the individual can detach himself/herself from the irrational impulses of nature. This detachment opens the way toward a rationally based living, which in turn is the basis of humanity. “It is discipline which prevents man from being turned aside by his animal impulses from humanity” (Kant 1900, p. 3). To enable such a way of cultivation, the individual needs education. The basic dichotomy “nature/culture,” its meaning for society and education has been, amongst others, developed by Kant, who tried to ground theoretical discourses on education on a scientific basis (cf. Kant 1900, due to these aspects, Kant’s “lectures on pedagogy” are used in the course of this analysis as a crucial source of the discursive relation between civil society and education).

In summary, it is possible to understand the child (as an immature/irrational individual) as part of a society, so that “(...) the child may develop his own individuality, he should do so only as a member of society (...)” (Kant 1900, p. 65). The development of a child towards a mature/rational adult is a social task. Education and its *discipline-based cultivation of the child* ensure the unfolding of the individual within the normative space “society”: “There are many germs lying undeveloped in man. It is for us to make these germs grow, (...)” (Kant 1900, p. 9). The individual cultivation of a child is subsequently at the same time a social progress: Within the individual *cultivation of a child via education*, the human being as such is metonymically cultivated. This kind of cultivation has to be performed according to the normative requirements of a rationally based society. Such a rationally based society is structurally defined by the imperative to be productive: “like a machine.”

This is why one of the educational objectives is to foster the industriousness of the child (and to diminish the play): “It is of the greatest importance that children should learn to work” (Kant 1900, p. 69). The child as an immature individual has to be occupied with things, tasks, and processes which are productive/or which can be transferred into productive and rational aspects later on. This is why, “Novel-reading is the worst thing for children, since they can make no further use of it, and it merely affords them entertainment for the moment” (Kant 1900, p. 73).

The society inscribes itself within civil society. When Kant points out—“Man’s duty is to improve himself; to cultivate his mind; (...)” (Kant 1900, p. 11)—this duty is also a duty towards society.

With this basic *topos education as performative basis of society* and the basic dichotomy *irrational nature/versus productive rationality*, the discursive frame of education in early civil society is set. These two basic issues can be located in diverse philosophical reflections about education, programmatic utterances about education, and action-orientated descriptions of educational methods (cf. Rutschky 1982). This relation between education and civil society can be shortly summarized in the sense of Culler’s understanding of semiotics. According to Culler, the “(...) point is that semiotics enables us (...) to stress the role of symbolic systems

in human experience and thus to think in terms not of autonomous objects but of systems of relation” (Culler 2001, p. 29).

Following this approach, one has to ask how the different elements “education” and “civil society” are interrelated. Education gets its meaning due to the self-understanding discourses of civil society. Education, in turn, becomes a symbol of civil society and part of its discursive (self-) legitimization: Due to the fact that education can create rational individuals, education functions as “*indices*” that the rational claim of civil society is valid. In the course of this relation, the dichotomy *irrational nature/versus productive rationality* becomes relevant. The demarcation toward nature/irrationality signifies the legitimization of a progressive rationality which is part of civil society, the bearer of progress.

In the course of the dynamics of civil society, the relation between society and education changed. A fundamental redefinition of this relation took place with the programmatic concept of a “postmodern education”. Such a postmodern education demarcates critically from the progressive claim of modern rationally based society, which education formerly supported.

56.3 Postmodern Thinking

The notion “postmodern” first emerged within the 1930–1940 and possesses until today various definitional approaches (cf. Al-Rodhan and Stoudmann 2006). From a conceptual point of view, the notion “postmodern” signifies basically the state of a society after its modern state—which is based (amongst others) on modern thought. Modern thought in turn “believes” in rationality and societal progress, which is based on this rationality. One main criticism of postmodern thinking towards modern thinking consists in the criticism on the—putative—totalitarian implications of modern thinking. According to this point of criticism, a modern worldview tends to integrate/subject everything (phenomena, social process, etc.) to a coherent, rationality based explanation model. This tendency (that modern, rational-based explanation models possesses universal truth claims) leads to the problem that more than one rationally based explanation model exists contradictory besides each other (e.g., Western democracy/civil society versus Marxist–Leninist conceptions). A thinker who is deeply associated with the epistemological definition of the notion “postmodern” is the French philosopher Lyotard. Lyotard developed the concept of a postmodern understanding of the world—as an *epistemological strategy* that copes with the increasing complexity of a modern world. To live in a postmodern world means, according to Lyotard, to live in a world where the individuals have lost a “transcendent and universal truth” (for the complex background of the notion postmodern cf. a.o. Harvey 2000):

Simplifying to the extreme, I define postmodern as incredulity toward metanarratives (...)
The narrative function is losing its functors, its great hero, its great dangers, its great voyages, its great goal. It is being dispersed in clouds of narrative language elements (...).
(Lyotard 1979, p. xxiv)

A metanarration can be conceptualized as a scheme which constitutes a totalizing meaning. A metanarration offers a totalizing explanation model to order and schematize diverse phenomena which appear and the social processes which take place in a society. Within a metanarration, the constitution of meaning extends over history, manifests itself in traditions, and provides thus a heritage. Metanarrations construct the legitimation of a society or group. Christianity, Enlightenment, and Marxism can be understood as famous examples of metanarrations. From this point of view, metanarrations always have the tendency of totalizing the complexity of social reality as well as history.

56.3.1 *Postmodern Education*

One aspect of Lyotard's understanding of postmodern thinking is therefore focused on ideological criticism. The ideological criticism, which is an attribute of postmodern epistemological strategy, bears implications for educational concepts. Postmodern thinking—applied to education—should generate a meaningful and at the same time tolerant apprehension/perception of the world. Metanarrations are normative and possess more or less explicitly truth claims. Postmodern criticism addresses the truth claims of metanarrations. The skepticism towards the idea of a totalizing unity and incontestable truth claims is a central aspect of postmodern-orientated education. Postmodern education subsequently fosters a tolerant pluralism:

“Pluralism is a feature of postmodernism. Educationally, the art of creating and choosing is more important than ordering and following” (Koo Hok-chun 2002, p. 58).

The legitimacy of other experiences of reality and the equivalent appreciation of other narrations are education goals of postmodern education (cf. Aronowitz and Giroux 1991, p. 110).

The tolerant appreciation and the acceptance of diversity enable a dialogue with other narrations and their cultural manifestations (other myths, rites, etc.)—at least as long as every interlocutor considers the dialog partner, his understanding, and experience of reality as equivalent to his own.

Aronowitz and Giroux point out that a tolerant self-reflexivity belongs to the fundamentals of a postmodern education:

The values that constitute postmodern education are those of empowerment in the most profound meaning of the term. (Aronowitz and Giroux 1991, p. 22)

Postmodern education means a mutual empowerment (cf. Aronowitz and Giroux 1991, p. 109). At the same time, such a mutual empowerment implicates a permanently critical challenging of all prefigured and seemingly indisputable meaning. Lyotard illustrates this “attitude” with reference to the modern development of art:

What then, is the postmodern? What place does it or does it not occupy in the vertiginous work of the questions hurled at the rules of image and narration? It is undoubtedly a part of the modern. All that has been received, if only yesterday (...) must be suspected. What space does Cézanne challenge? The Impressionists?. What object do Picasso and Braque

attack? Cézanne's. What presupposition does Duchamp break with in 1912? (...) In an amazing acceleration, the generations precipitate themselves. A work can become modern only if it is first postmodern. (Lyotard 1979, p. 79)

Lyotard inaugurates a reconceptualization of modern thinking as a reasoning which grounds on the epistemological bases of a critical postmodern thinking. Such a postmodern thinking ensures a “nondogmatism” that can be understood as an essential feature of modern thinking (which was submitted to postmodern criticism). From a pedagogical perspective, postmodern education fosters such a self-critical empowerment of the individual. A characteristic feature of such a self-critical empowerment recognizes and acknowledges its own presuppositions, prejudices, and narration patterns as such just like those of the dialogue partners. The individual does not reproduce the self-understanding of society. Instead, postmodern education demands a critical distance of the individual towards the truth claims of societies. Education processes have to provide a forum where the individual can develop this kind of critical—postmodern—distance to a normative self-understanding of society and its truth claims.

56.3.2 Semiotical Perspective on Postmodern Education

This educational goal of postmodern education can be described in terms of a semiotical analysis: The individual is “thrown into a symbolic order” with its specific codes and (partly unconscious) epistemological, anthropological, and ontological presumptions (to describe this partly “unconscious presumption” appropriately, Foucault provided a redefinition of the notion episteme, cf. Foucault 1989). In the course of the socializing process, the individual internalizes the semiotical code of a symbolic order. The individual acts and reflects according to the provided meaning pattern, in which the symbolic order of society is metonymically inscribed (Butler described this process with reference to Lacan and Foucault as “subjection,” cf. Butler 1997). Via the socialization process, the symbolic order reproduces itself performatively, inscribing the code within the individuals in course of a socializing/subjection process. Therefore, the educational process can be understood as a specific and guided form of socialization. Education is responsible for taking care of successful subjection processes (for the historical development of such an understanding of education cf. Ariès 1962 and Foucault 1975). Postmodern thinking draws a line between the society, its normative truth claims, and the individual. In contrast to education in the course of early civil society, postmodern education has a critical perspective on truth claims of civil society. The dichotomy education/society is redefined: Education lost its function as a claim of legitimacy for society. Due to the fact that postmodern education undermines claims of truth and the therewith connected claims of power, postmodern education possesses a subversive meaning. This aspect effects a tension relationship between normative truth claims of society and postmodern education. The crucial achievement of postmodern epistemology can be seen in the fact that it has developed a strategic distance to the symbolical

order of a society and its code. Postmodern education mediates/teaches postmodern skepticism and implements the epistemological skepticism within intercultural encounters. Postmodern education is thus less about specific skills, professional knowledge which have to be learned/trained. Rather it is more about the way such knowledge is learned. This approach can be operationalized via a critical handling of the code of a symbolic order. From this point of view, the meaning of education has changed to the contrary: *Instead of being a metonymy for the claim of power of a rationally based civil society, postmodern education is a subversive agent to these claims.* But with the increasing (discursive) meaning of globalization, the interrelation between society and education changed again: Away from a postmodern relation society/education to a more “globalized” thematization of education which means a thematization of education accompanying the challenges and requirements which emerge within globalization.

56.4 Globalized Society and Education

Al-Rodhan and Stoudmann define Globalization as “(...) a process that encompasses the causes, course, and consequences of transnational and transcultural integration of human and non-human activities” (Al-Rodhan and Stoudmann 2006, p. 2). In the course of this analysis, globalization should be treated like a dichotomic notion to education. Globalization can be interpreted as a narration pattern which tries to deal with different challenges of society². The global competition between different states/nations has required a redefinition of the relation society/education. Education provides an answer to the threats (or challenges) of globalization. Education gets the meaning of a competitive advantage within the global market (which is in turn an attribute of globalization). Such a reinterpretation of education requires a new understanding of the dichotomy education/market: “In most contexts market principles have been applied against a background of an established public education service managed in some way through the apparatus of the state” (Bridges and Jonathan 2003, p. 127). According to this binary oppositional dichotomy, the market principles are the discursive counterpart to the public educational system. From this point of view, “(...) the application of market principles is nearly always at the expense of a nationally or locally administered state bureaucracy which (...) was subject to national and local forms of democratic accountability” (Bridges and Jonathan 2003, p. 127).

² From a discourse analytically orientated point of view, it might be possible to consider the notion of globalization as an effect of worldwide socioeconomic restructuring processes. One crucial aspect is the international division of labor. The electronic and here especially the digital media open up the possibility to offshore tasks and jobs to other places in the world and due to the worldwide and seemingly boundless “floating of the capital” the structure of the labor market changes profoundly. In consequence, the individuals have to deal with these socioeconomic changes also on a semiotical level.

Within the discursive frame of globalization, the relation between market principles and (public) education gets restructured. Education is submitted by valorization; it is no longer a counterpart to the market but a metonymy for it: With its role as competitive advantage, education affirms the code of the market principles and becomes thus part of the market:

The European Union is confronted with a quantum shift resulting from globalization and the challenges of a new knowledge-driven economy. These changes are affecting every aspect of people's lives and require a radical transformation of the European economy. The Union must shape these changes in a manner consistent with its values and concepts of society and also with a view to the forthcoming enlargement (European Council, 23 and 24 March 2000 presidency conclusions, Lisbon).

In a globalized society, education has the task to provide human capital and thus empower the "nation-based society" assertiveness in the struggle of globalization. This meaning of education is especially relevant for knowledge-based societies:

In the knowledge-based economy, the individuals need to be trained across the various levels specific to the professional forming system, adapting to the demands of the knowledge based society. The knowledge based economy and society have changed the political, economic, social and moral background of the world. The new society is a certainty and is one of organizations, where the primary resource is knowledge. (Pârgaru et al. 2009, p. 647 f.)

56.4.1 *Semiotical Perspective*

Summarizing, one could say that in the course of globalization, education possesses its ideological and critical functions: In early civil society, education provided a legitimization within the self-understanding processes and discourses of civil society. In globalized society, education still fosters the society. But instead of a discursive legitimization, education produces qualified human capital. The binary dichotomy could be summed up with the confrontation "(national) society/globalization." In the course of this dichotomy, education develops its meaning out of its supporting position for a (national) society and semiotical functions like a metonymy: *education bears the code of society affirmatively instead of being a counterpart to society and globalization.*

56.5 Outlook: e-Learning 2.0

A semiotical analysis cannot anticipate the upcoming relations between the elements "society" and "education." But it might be possible to interpret current developments and their potential for a new relation between society and education. Here the web-based "Learning 2.0" could get important. The so-called Web 2.0 is defined by the possibility to use user-generated content applications (UGC). The user is the

consumer and producer of the content at the same time. The user can consume and produce the content of the media, for instance in blogs, podcasts, wikis, etc.

“For all this technology, what is important to recognize is that the emergence of the Web 2.0 is not a technological revolution, it is a social revolution” (Downes 2005: without page).

The technical possibilities redefine also the process of learning. Learners depend no longer on the competence and knowledge of a specific teacher. The relationship of dependence which seems to define learning erodes fundamentally. Education provides the place where formal learning takes place. Formal learning normally needs a teacher who provides the content. The teacher provides knowledge and thus ensures the maturing process of the immature individual.

With the increasing popularity of the Web 2.0 applications, the organization of learning processes seems to change fundamentally. The single teacher (who could be interpreted as a specific kind of educator) is substituted by a collective process of generating knowledge, a basic trait of learning. The process of a normative right or wrong—represented by a teacher—is substituted by a collective construction and validation process of knowledge (which can be observed in Wikipedia). From this point of view, a semiotical analysis could investigate the new relation the role of the teacher and the learner: The single individual and the normative requirements (represented by the symbolic power of an educator) dissolve in learning arrangements where no single teacher as authority can be identified:

In the future it will be more widely recognized that the learning comes not from the design of learning content but in how it is used. (Downes 2005: without page)

The normative meaning of a society and its requirements on the individual (which are also manifested in the dichotomy teacher/learner) are increasingly dissolving in a learning sphere which is defined by a collective, supra-individual generating, and validation process of knowledge. With this learning practice, education and its relation to teachers, educators, and the society which they represent has to be redefined.

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David Kergel worked among others as a research assistant at the Sociological Institute of the FU Berlin, Germany and as an external lecturer at the Institute for Learning and Philosophy of Aalborg University, Denmark. Currently, David Kergel works as a research fellow at the Pedagogical Institute of the Carl von Ossietzky Universität Oldenburg, Germany.

Chapter 57

Capitalists' Profitable Virtual Worlds: Roles for Science and Science Education

J. Lawrence Bencze and Lyn Carter

57.1 Introduction

A fundamental character of the human condition, like all life forms, is our need to *consume*. We need, for example, to extract nutrients and energy from our environments in order to grow and prosper. It is apparent, however, that our rates of consumption have dramatically increased in recent decades. Although not everyone agrees, many suggest that our increasing appetite for raw materials, finished products and services is posing significant threats to the wellbeing of individuals, societies and environments. In the spirit of Bybee's (1991) concerns about what he called a 'planetary emergency' facing humans, Vilches and Gil-Pérez (2013), for example, list several potential social and environmental problems—such as social inequalities between human groups; conflicts and violence associated with such inequalities (military conflicts, speculation on behalf of transnational companies that escape democratic controls); and environmental pollution and its consequences (greenhouse effect, acid rain)—associated with increasing consumption. Although reasons for such consumption-associated problems are, undoubtedly, complex, a significant factor appears to be the current state of capitalist economic systems—which, according to numerous academics (e.g. Gabbard 2000; McMurtry 1999), are strongly influencing societies to orient themselves towards profit generation that is largely fed by consumerism. Given the key role of fields of science and technology in capitalist enterprises, a possible site of action for perhaps contributing to avoidance of a 'planetary emergency' is school science—which assists in educating future scientists and engineers, along with other members of societies. Accordingly, in this chapter, we provide a critical analysis—particularly from a semiotic perspective—

J. L. Bencze (✉)

Ontario Institute for Studies in Education, University of Toronto, Toronto, Canada

e-mail: larry.bencze@utoronto.ca

L. Carter

Faculty of Education, Australian Catholic University, Melbourne, Australia

e-mail: Lyn.Carter@acu.edu.au

of how capitalist economic systems seem to emphasize consumerism in society, generally, and in school science, more particularly. It is apparent to us that science education is largely organized to benefit relatively few economic elite—and, in so doing, is seriously compromising the wellbeing of many individuals, societies and environments. We make these claims based on our reviews of relevant academic literature. Given our claim that elite capitalists have control of much of societal discourse, our presentation here is openly contradictory to such discourse. We believe that we are giving voice to disenfranchised perspectives.

57.2 Capitalist Hegemony

57.2.1 *The Capitalist Societal Zeitgeist*

I am a part of all that I have met. (Tennyson, in *Ulysses*)

Each of us often has the sense of living in our own minds, being separate from those around us. As far as we are aware, no one can know our thoughts. But, from the perspective of social epistemology (Fuller 2002), generally, and actor network theory (Latour 2005), more specifically, our minds are composed of significant influences from a multitude of actors. Most of us can, for instance, detect in ourselves characteristics—such as speech patterns—of our parents and siblings. There are, undoubtedly, many such influences on us. In the past several decades, if not centuries, it has become apparent that humans' thoughts, actions and, to a great extent, identities are currently dominated by one powerful actant, that is, *economization*—a process that infuses into people's minds an ethos prioritizing competitive for-profit exchanges. Gabbard (2000), for instance, argues that global *economization* 'subordinates all...forms of social interaction to economic logic and transforms nonmaterial needs...into commodities' (p. xvii). Although various influences compete to determine our identities, including, for example, those relating to gender, kinship, age, religion, sexuality and ethnicity (Warde 1994), many of our thoughts and actions appear to be excessively guided by a general affinity towards capitalist economic exchanges. In the past four or so decades, the nature of capitalist influences has changed—and, to a great extent, *intensified*—to become more globalized and strategic. After a period of higher taxation and social spending to help countries rebuild after the Second World War and Great Depression, members of the economic elite urged governments to re-enact economic liberalism—but, this time, with a major difference. Instead of simply promoting minimal government intervention as before, *neo-(new)liberals* often promote *strategic* intervention by governments and *supranational* (independent of governments) organizations, like the World Bank and World Trade Organization that, ultimately, enables capitalists to maximize profit (Bakan 2004; McMurtry 1999; McQuaig and Brooks 2010). Such intervention has effectively increased elite capitalists' wealth through such policies as: income tax reductions, particularly for rich individuals and corporations; privatization of

NEOLIBERAL CAPITALIST TECHNOSCIENCE

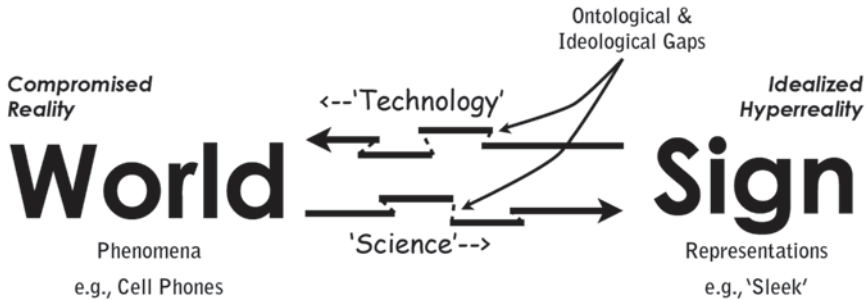


Fig. 57.1 Neoliberal capitalism and science and technology

public services, such as energy and transportation systems; easing of laws governing labour and environmental protections; easing of regulations governing international trade of goods and services and workers; reductions in social spending, including for health care and education; and, a general trend towards promotion of private interests over that of the public good (Harvey 2010; McMurtry 1999).

57.2.2 *Neoliberal Technoscience*

Given their focus on development of marketable products and services, elite capitalists have—for centuries, but perhaps especially in the neoliberal age—exerted considerable influence over fields of science and technology (Angell 2004; Krimsky 2003; Ziman 2000). Facilitating this, given the interventionist nature of neoliberalism, have been governments—which have, for example, developed legislation allowing government-funded scientists to sign contracts with businesses. Such legislation has led to what has been called the *triple helix* of university/industry/government complexes (Etzkowitz and Leydesdorff 2000). With such government facilitation of business–science partnerships, particularly through intellectual property transfer agreements, many ‘academic’ scientists—typically employed in universities—have shifted their focus from world → sign translations (Fig. 57.1) to consideration or, even, development of sign → world translations (Ziman 2000). In other words, academic scientists have sometimes been encouraged to focus on doing ‘technology’ as well as ‘science’. Given co-dependent relationships between world and sign, they may be considered to be conducting some combination of science and technology; perhaps what we might call *technoscience* (Sismondo 2008). A chemist may, for instance, not just determine physical and/or chemical characteristics of various compounds but also discuss and/or produce ways in which they might be used for the development of commercially viable products—such as plastics, cosmetics or pharmaceuticals. Ziman (2000) discussed this in terms of a shift from *academic science* to *post-academic science*. Earlier, Gibbons et al. (1994) referred to a similar shift, discussing it as moving from mode 1 to mode 2 research—

the former being more isolationist, with scientists in each field problem-solving with colleagues, while the latter recognized situations in which there are relationships among fields of science and technology and members of society, including entrepreneurs. Mode 2/post-academic science is evident, for example, in the many 'science and technology parks, centres of excellence, and other university-based research innovators and incubators...' (Dzisah 2007, p. 127).

Proponents of government-supported business–science partnerships suggest that an orientation towards production and marketing of for-profit goods and services can have many benefits for societies. Etzkowitz and Leydesdorff (2000) suggest, for example, that '[although] the driving force of the interactions can be specified as the expectation of profits[, that] may mean different things to the various actors...' (p. 118). A common benefit discussed is that triple helix partnerships can reduce the time between discovery and production of useful products for societies (Etzkowitz and Leydesdorff 2000). Indeed, in practical terms, advanced fields of science often are very expensive regarding needs for various technological tools, such as measuring equipment (e.g. a synchrotron) and software (e.g. for complex statistical analyses); and, consequently, often can benefit from funding from the private sector (Dzisah 2007; Ziman 2000). In the end, advocates of business–science partnerships claim that 'scientists who can turn ideas into profits are the ones who are contributing to a better world' (Krimsky 2003, p. 2).

Although there may be many benefits of triple helix partnerships and other cases of commercialized science, detractors point to numerous potential problems with them. A broad concern pertains to repercussions of shifting governments' traditional priority for promotion of general societal wellbeing towards emphases on capitalists' private interests. Krimsky (2003), for example, suggests that government policy changes have 'transformed our universities into incubators for generating wealth and intellectual property while significantly compromising their virtue and public interest roles' (p. 24). There are many ways to analyze and evaluate elite capitalists' use of fields of science and technology to achieve their for-profit ends. However, an aspect of neoliberal capitalism that appears to have significant ramifications for fields of science and technology is its promotion of *knowledge* economies/societies. Coinciding with the advent of the neoliberal programme in the late 1970s and early 1980s, along with their increasingly efficient production capabilities, capitalists steadily evolved their emphasis from production of physical products to satisfy human *needs*, such as for food, shelter and health care, to an emphasis on creation of repeating cycles of *desires* for products and services in people with few needs. This emphasis has, apparently, largely been achieved by focusing consumers' attentions, through advertising, on abstractions associated with products and services (Barber 2007; McMurtry 1999; Usher 2010). In such consumerist societies/economies, although physical goods and services—like cars and cell phones—are produced and consumed/purchased, it is suggested that the more important actants of consumption are *semiotic*. When we purchase a car, for instance, we are acquiring not just a physical object but also a semiotic message that communicates to others something about us (provides us with an *identity*), such as that we are 'rich', 'fast' or 'cool' (or

'hot'). In that sense, it is apparent that much of consumerism is *material semiotic*, acquiring an object, substance, process, etc. *and* constructing (a) meaning(s).

The material-semiotic nature of capitalism-influenced science and technology can be understood in terms of world \leftrightarrow sign relationships depicted in Fig. 57.1. In essence, in knowledge economies, profits are generated for relatively few very wealthy capitalists (e.g. individual financiers, corporations and their shareholders) through promotion of repeating cycles of consumption of highly idealized 'signs' that can distract consumers from noticing problematic aspects of the 'world'. In his analysis of consumer societies, Baudrillard (1998) suggested that—particularly through advertising involving logos and brands, often facilitated by various media technologies (e.g. television, movies, internet sites, etc.) (Klein 2000)—people are encouraged to repeatedly purchase products and services not so much based of their 'real' qualities/characteristics but more so in terms of abstract images, notions, etc. ('signs') that are *manufactured* and then associated with the products and services. Often, these images, notions, etc. are considered *hyperreal*, that is, almost entirely (if not entirely) detached from the actual products and services (Baudrillard 1998; Norris 2011; Usher 2010). With reference to Fig. 57.1, from an antirealist perspective, translations from world \rightarrow sign will always involve *ontological gaps*, that is, inconsistencies in converting from one ontological entity (e.g. water) to another (e.g. depictions of water molecules) (Roth 2001). This calls into question (techno) scientists' abilities to fully represent phenomena ('world'). Not everyone agrees with such antirealist concerns about representation. We suggest belief in such gaps is irrelevant to our argument. However, although they are likely to have an ideological component, we suggest that gaps that we call 'ideological gaps' may exist in many neoliberal-influenced translations. In this case, people may *purposefully* create inconsistencies between aspects of the world and their purportedly corresponding signs. Such would be the case, we suggest, when marketers and others in neoliberalism-influenced technosciences create hyperreal notions that they associate with products and services for sale. Freed from bonds with the world, neoliberalism-influenced technoscientists can continually innovate 'new and improved' images of 'goodness', 'beauty', 'pleasure', 'status', 'luxury' and other notions of an ideal world. Latour (1987) suggested that the more abstracted from reality is a (purported) 'representation', the more amenable it is to manipulation by its creators. Consumers, although likely incorporating them in unique ways, may continually assume new identities associated with these notions—perhaps thinking of themselves as, for example, 'beautiful', 'successful', 'fun', 'powerful', etc. (Barber 2007). The continual renewal associated with accommodating revised identities may be driven, in part, by consumers' innate desire to reproduce and, perhaps through that, symbolically delay death (Baudrillard 1998). Nevertheless, because capitalists may, to a degree, control consumers' identities, such effects may be considered acts of *violence* (Baudrillard 1996).

While consumers may be convinced to adapt their identities to a fictional world of hyperreal notions controlled by powerful others, they may be less aware that the actual products and services they are consuming may be significantly degraded in quality. Many marketable products and services are produced by *corporations* and,

by law, corporations are classified as ‘individuals’ that are allowed to prioritize economic self-interests over interests of others (Bakan 2004; McMurtry 1999). In that light, they might be considered, in effect, *pathogenic* (Bakan 2004). McMurtry (1999) has gone so far as to suggest that, like cancer cells, some members (corporations) of a community act, in effect, to feed off and perhaps destroy their neighbours. There does appear to be some truth to this analogy when one considers that corporations also have the right to minimize their costs, often through *externalizing* them, that is, arranging for others to bear production and consumption costs. Such externalities can take such forms as: reductions in workers’ wages, benefits and working conditions; allowing/encouraging the public to pay for infrastructure (e.g. roads) and protection (e.g. military and policing) to facilitate business; job elimination due to leaders’ irresponsible financial transactions; and costs governments (the people) must pay to address health and environmental problems associated with companies’ products and services. With this ethic, much harm can be incurred by individuals, societies and environments outside of corporations. Bakan (2004) claims that ‘the corporation [often actualizing neoliberal ideals]...is an *externalizing machine*, in the same way that a shark is a killing machine’ and that this makes it ‘potentially very, very damaging to society’ (p. 20; emphasis added).

Like a Trojan Horse¹, an idealized image associated with a product or service may contain hidden dangers. In other words, as illustrated in Fig. 57.1, consumption of idealized ‘signs’ may occlude a degraded ‘world’. There are, indeed, numerous examples in various fields of technoscience—such as for cigarettes (Barnes et al. 2006), pesticides (Hileman 1998), fast foods and other manufactured foods (e.g. Schlosser 2001; Weber 2009), household cleansers (e.g. Vasil 2007) and biotechnology (Kleinman 2003)—in which neoliberal capitalist influences appear to threaten the quality of products and services that may be marketed through commercialization of hyperreality. The pharmaceutical industry represents an excellent case to illustrate adverse neoliberal capitalist effects on the quality of its products. Potential problems appear to apply to: areas of focus, methods of knowledge building and testing, and dissemination of findings. In contrast to the abundance of products and sense of success that drug companies may portray through, for example, large displays of medications in stores and in media advertisements, pharmaceutical companies often take steps to minimize efforts to develop new medications. Angell (2004) reports a number of steps taken by companies along these lines: changing one or more atoms in a drug compound (without changing its active site) so that it can receive a new patent; testing drugs against placebos, which means they need only be better than no treatment; and avoiding drug development to treat diseases, such as those in poor countries where people cannot afford to purchase medications or where the number of disease cases is very small. Greenberg (2003) adds that companies have promoted repeat publication of research reports, with similar data but shifting authorship, as a way of implying an active drug development programme. Once drug research and development begins, meanwhile, there are numerous for-profit compromises. Often through research firms under contract to drug companies

¹ http://en.wikipedia.org/wiki/Trojan_Horse

(Mirowski and Van Horn 2005), clinical trials of drugs may, for example, cut corners by: minimizing subject sample sizes, using younger subjects less prone to side effects, testing lower doses than to be prescribed and/or testing higher doses of the new drug than doses that had been used for the older drug, and reducing drug trial test periods to reduce chances of emergence of negative side effects (Bodenheimer 2000). There are suspicions that such practices are widespread, given that high percentages of journal reports of drug trials have pharmaceutical company sponsorships (Kleinman 2003; Krimsky 2003). Combined with the possibility that patients may not be fully informed of medications' side effects, compromises to the integrity of pharmaceutical research and development may be sacrificing patient safety for the sake of company profits (Weinstein 2007). Exacerbating this situation is the possibility, which has been documented, that companies may take various steps to prevent release of results of drug trials that indicate negative side effects and/or sponsoring publications contradicting other authors' such findings about their medications (Angell 2004; Kleinman 2003).

In addition to examples in traditional fields of technoscience, such as those based on biology, chemistry and physics, there are numerous cases of idealized signs occluding compromised worlds in popular culture. The *American Girl*TM (AG) line of dolls and accompanying clothing, accessories (e.g. jewellery) and books for young girls presents idealized images of what it means to be a girl in the USA, while ignoring possible weaknesses in such images. For example, Acosta-Alzuru and Lester Roushanzamir (2003) ask, 'Why isn't the Hispanic doll a Cuban refugee living in Florida with her family, or a Puerto Rican girl living in New York or Chicago?' (p. 65).

Similarly, about Bravo television's *Real Housewives*, Cox and Proffitt (2012) ask why, instead of portraying housewives as focusing their days around experiences like 'buying the best blouses and enlisting the best surgeons, luxurious get-aways, and gourmet dining. ...[and] having the biggest diamonds and the biggest boat[s]' (p. 295), are not stay-at-home moms shown—as is the reality for many poorer housewives—caring for busy toddlers and keeping their houses clean? To illustrate the range of this phenomenon, it also can be seen in various public displays. Luke (1997) notes, for instance, that

[t]he Arizona-Sonora Desert Museum...has become ensnared in a dangerous dialectic. Although it poses as the protector of the real desert, all of its displays hyperrealize Arizona's desert ecologies in a unique desert imaginary, or the many little ecological minispectacles put on exhibit in the museum's displays. Yet, the hypercapitalistic growth economy of the Arizona-Sonora region works by exploiting the mystique of the desert imaginary to produce the concrete deserts of Sunbelt organization. (p. 150)

57.2.3 *Capitalist Science Education*

Assuming that fields of technoscience help capitalists to develop and market products and services as described above, it may be that science education is a key agent in this process—given its potential role in helping to shape science literacy

of generations of citizens. There are, indeed, scholars who believe that education, generally, is geared to serve capitalists' needs and desires (Gabbard 2000; Giroux and Giroux 2006; Norris 2011; Usher 2010). McLaren (2000) provides a succinct and pointed summary of such views, suggested that 'the major purpose of education is to make the world safe for global capitalism' (p. 196). Given its role in identifying and educating potential scientists and others citizens, there also is evidence of a special role for science education in this programme. In the National Science Education Standards (NRC 1996) of the USA, for example, one of the purposes of science education is said to be to 'increase economic productivity through the use of knowledge, understanding, and skills of the scientifically literate person in their careers' (p. 13).

At the risk of oversimplification, it is apparent that school science functions to generate societies not unlike that described in Plato's (c375 BC) *Republic*, in which he described societies composed of: very few philosopher kings (abstract thinkers), a small number of professionals (in that period, warriors) and masses of workers. In the context of current knowledge economies, this appears to translate into three classes of workers who can serve elite capitalists (perhaps today's philosopher kings): (i) *symbolic analyzers*, such as scientists, engineers, accountants, lawyers, management consultants, investment bankers, authors, editors, art directors, video and film producers, who can analyze and manipulate symbols, including words, concepts, numbers and graphics to develop and manage formulations for production of material-semiotic entities for sale; (ii) *routine production workers*, such as factory labourers; and (iii) *in-person service workers*, such as store clerks (Reich 2007). More broadly, we may reduce these classes to two categories, that is, *knowledge producers* and *knowledge consumers*. Some ways in which science education may generate these kinds of citizens are considered below.

Generating Knowledge Producers Although fields of technology, as well as fields of science, are, apparently, essential to generation of material-semiotic entities for sale (refer to Fig. 57.1), technology education does not appear to have a prominent role in selecting students who might best serve as knowledge producers for capitalists. If the goal is to identify symbolic analyzers, who require abstract thought, then science is more appropriate than technology because, traditionally, it emphasizes abstract, decontextualized knowledge development (e.g. laws and theories)—while technology is traditionally characterized by development of inventions/innovations in particular, highly contextualized, situations (Layton 1993). To safeguard its role as the agent of selection of abstractors, which is considered a legacy of Plato's conception of societies (Lewis 1995), science education has long stigmatized technology as only appropriate for 'less able, concrete thinkers' (Fensham and Gardner 1994, p. 168). With its prominence in curricula secure, school science can focus on identifying potential symbolic analyzers. Its selection criterion appears to be, to a great extent, students' aptitude for processing *abstractions*—for quickly comprehending laws and theories (e.g. like the concept that a point mass occupies no space or that atoms do not actually touch when objects touch) in the absence of practical applications. Students would not, in other words, be very deeply engaged in reciprocal world \longleftrightarrow sign relationships. Often, as when listening to lectures,

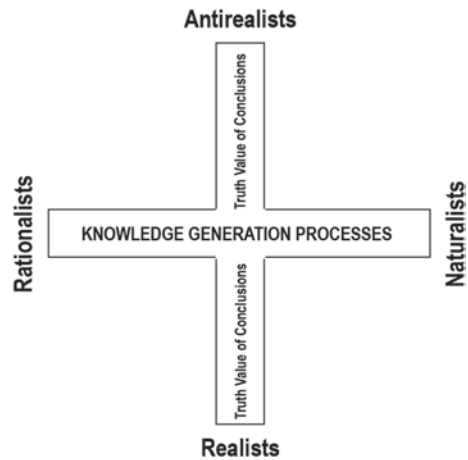
they mostly experience presentation of signs (e.g. about laws and theories). Even when they are engaged in experiences with the world, their level of engagement is minimized because the teacher or textbook tends to control many or most decisions. Focus of instruction appears 'almost exclusively on the well-established products of science [e.g., laws & theories] and cookbook approaches to laboratory exercises, using authoritarian teaching modes' (Bell 2006, p. 430).

Generating Knowledge Consumers Complementing production of students who may develop and/or market for-profit material-semiotic entities on behalf of elite, capitalists appear to benefit from generation of large numbers of students who may serve elite as consumers. Giroux and Giroux (2006) suggest that schooling produces 'consumers' in at least two senses, that is, as compliant workers and as enthusiastic and naïve purchasers of for-profit products and services (with hyperreal messages) (Giroux and Giroux 2006). Although it seems likely that science education contributes in different ways to produce these two types of consumers, we suggest that many mechanisms contribute to both categories. We are unaware of research clearly associating different science education characteristics with either production of compliant workers or enthusiastic and naïve purchasers. There appears to be considerable scope, therefore, for research in this regard. Nevertheless, among the many ways in which science education appears to contribute to generation of consumers, we suggest that the following three mechanisms may be critical in light of the schema in Fig. 57.1.

Continuous Re-identification Science education often mimics consumerism in knowledge economies. Students/consumers are expected to engage in cycles of consumption and disposal, repeatedly identifying with semiotic messages associated with new commodities (Barber 2007; Norris 2011; Usher 2010). On the one hand, there tends to be an orientation towards general conformity. Students from different subcultures, for example, such as indigenous peoples, often are expected to abandon their cultural ways of knowing and replace them with epistemologies of mainstream Western science. According to Aikenhead and Jegede (1999), 'around the world, ...science students are expected to construct scientific concepts meaningfully even when those concepts conflict with indigenous norms, values, beliefs, expectations, and conventional actions of students' life-worlds' (p. 270). On the other hand, it seems that they also are asked to continuously change their identities as they are led from subject (e.g. cells and organelles) to subject (e.g. electrical circuits) in the same course. Several years ago, Claxton (1991) described this well when he compared school science to having people being carried along in a train with no windows, but forced to get out and explore each new region for a short time—all the while not informed by the conductor how each stop related to the others.

Technoscientism Perhaps mirroring societal consumerism, it is apparent that school science students/consumers in knowledge economies are encouraged to develop affinities towards idealized, hyperreal, constructions that may mask compromises to the actual products they are consuming. Although this stance is likely controversial, given the diversity of views about science that exist, we suggest that school

Fig. 57.2 Scientific theory profile (Loving 1991)



science tends to present students with an idealized view of the nature of science by supporting *rationalist–realist* (RR) perspectives on Loving’s (1991) *Scientific Theory Profile*² (STP; refer to Fig. 57.2). In other words, students are led to believe that scientists base decisions strictly on logical adjudication of data, relatively free from biases attributable to such influences as gender, race, culture, politics, economics, etc. and that their conclusions (e.g. laws and theories) are usually correct. In that light, semiotic messages associated with fields of professional science may include such notions as: ‘confident’, ‘efficient’ and ‘certain’. After a review of 105 empirical studies of students’ views about science, Deng et al. (2011) found that, while some students have a sense that scientists’ theoretical perspectives may influence their conclusions and that these are sometimes tentative, most adhered to empiricist(-inductivist) conceptions of science—which implies rational negotiations of theory and data. One source of such views appears to be science textbooks, which many scholars believe greatly influence teacher practice (Poizzer and Roth 2003). In a study of historical accounts in science textbooks, for example, Allchin (2003) ‘concluded that the following idealized semiotic images about scientists and their work were promoted: *Monumentality*: scientists appear as ‘larger-than-life’ heroic figures, often working alone and, moreover, their work is seen as very difficult, but very important; *Idealization*: false starts, complexities and biases are absent; *Affective drama*: the excitement and emotional elation of ‘discovery’ are

² The STP consists of a two-dimensional grid. Its horizontal axis spans a continuum ranging from *rationalist* through *naturalist* positions regarding the nature of theory negotiation in the sciences. Rationalists tend to believe in highly systematic methods of science, including rational judgments about theory. Naturalists, by contrast, assume that the conduct of science is highly situational and idiosyncratic, depending on various factors, including psychological, social, cultural and political influences. The vertical axis depicts a continuum reflecting the truth value of knowledge, with *realist* through *antirealist* positions. Realists believe that scientific knowledge corresponds to reality, while (extreme) antirealists claim that each person’s constructions are valid. More moderate antirealists believe in useful knowledge.

exaggerated; and, *Explanatory and justificatory narrative*: conclusions of [individual investigations] are seen as final/unchanging and correct' (pp. 341–347). In a later study, Allchin (2004) found that historical narratives on biology textbooks often use 'Whiggish' (after the British 'Whig' political party) techniques in their historical accounts of biologists—meaning that historical records are selectively used/not used to support current laws and theories, a tack that can idealize processes of science. Meanwhile, in an another textbook study, Pozzer and Roth (2003) found that—although photographs arguably may closely represent phenomena and, therefore, may not overly reify reality—most textbook photographs have either minimal textual references made to them or such references often lack specificity and, therefore, most photographs in the textbooks they studied mainly function as *decoration*. We suggest that decorations can, effectively, contribute to hyperreality—in that, without adequate textual guidance, they are open to diverse student interpretation and, therefore, may be extremely detached from the reality they are to represent.

Together, such unrealistically positive messages about the nature of science like those described above may distract students from awareness of possible problems stemming from biases attributable to such influences on science as gender, race, culture, politics, economics, etc.—influences accepted by those adhering to *naturalist–antirealist* positions on the STP. Studies of practices in fields of science and technology reveal that hoarding of information, personal and group biases, plagiarism and blind trust in data sometimes are found in authentic science practices—much of which has been linked, as discussed above, to business–technoscience partnerships (Krimsky 2003; Ziman 2000). By ignoring adverse effects of such partnerships, as often appears to be the case in many school science contexts (Carter 2005, 2008), science educators may, in effect, be presenting students with a Trojan Horse—convincing them to accept fields of technoscience based on idealized, perhaps hyperreal, conceptions of them, while ignoring aspects of technosciences that may be problematic. Such blind acceptance may translate into unquestioning and enthusiastic consumption of capitalists' for-profit products and services (and their semiotic messages)—which, to a great extent, are developed and marketed by fields of technoscience.

Alienation Finally, students/citizens lacking expertise for creating their own products and services may be more amenable to consuming those (with semiotic messages) provided by elite capitalists. For deep learning, Wenger (1998) suggests that learners need personal engagement in reciprocal relationships between phenomena and representations of them. In other words, with regard to Fig. 57.1, learners need to have considerable control of world \leftrightarrow sign translations. In the context of school science, this implies they conduct student-directed and open-ended (choice of conclusions from diverse possibilities) (Lock 1990) science inquiry and/or technology design projects. Many school science studies suggest, however, that students seldom have opportunities to self-direct such open-ended projects (Hodson 2008). Instead, even in inquiry-based learning that educators often suggest should be student-led, it is apparent that teachers feel compelled to guide—or, as commonly-stated, 'scaffold'—student decision making at various stages of knowledge building processes (Bencze and Alsop 2009). For example, Schwartz et al. (2004) describe

appropriate inquiry-based learning this way: ‘Within a classroom, scientific inquiry involves student-centered projects, with students actively engaged in inquiry processes and meaning construction, *with teacher guidance*, to achieve meaningful understanding of scientifically accepted ideas targeted by the curriculum’ (p. 612; emphasis in original). Guidance sometimes is carried out in subtle ways, perhaps to distract students from realizing that someone else is in control. Holliday (2006), for instance, urges educators to blend implicit and explicit strategies to avoid ‘errant learning and misconceptions’ (pp. 202–203). Without significant self-directedness, students may become alienated from world \longleftrightarrow sign translations—and, therefore, be amenable to manipulation by those with more control over such relations.

57.3 Summary and Conclusions

It seems clear that capitalism has gotten out of control. Apart from individuals constructing their identities from such factors as sex/gender, religion, race, culture, nationality, etc., we are increasingly basing our thoughts and actions in terms of for-profit exchanges. Moreover, the earth now seems ‘blanketed’ with neoliberal capitalism—with governments and supranational organizations (e.g. World Trade Organization) adjusting rules and regulations in ways that maximize profit for an elite few, regardless of significant adverse effects that such wealth concentration appears to be having on other individuals, societies and environments. Some suggest that we are facing a ‘planetary emergency’ (Bybee 1991), not the least of which may be potential global catastrophes from dramatic climate change predicted in the coming few decades (Lynas 2008) largely because of this system. A key focus of this unbalanced and alarming process appears to be an emphasis on *consumerism*—in which people with relatively few needs are convinced to repeatedly purchase and discard for-profit products and services. Assisting capitalists in promoting repetitious consumption are fields of technoscience, which develop and distribute many commodities but, as well, create conditions, characteristics (e.g. shapes, colours, etc.) that can lead to development of semiotic messages—such as senses of ‘beauty’, ‘speed’, ‘fun’ and ‘status’. Apparently, consumer choices often are based on such semiotic messages—which may, at least temporarily (until the next purchase(s)), become part of their identities (Baudrillard 1998). If consumers focus on such semiotic messages, they may be distracted from giving attention to the qualities of the actual products and services. This can benefit capitalists because the quality of many of their products and services are compromised—due, for example, to engineered obsolescence (Leonard 2010), uses of lower-cost ingredients (McMurtry 1999) or problems due to expediency (e.g. Angell 2004; Krinsky 2003). In a sense, products and services often are like *Trojan Horses*—in that they may be desirable on the outside, but hide significant hazards within.

Apparently contributing to the capitalist-led emphasis on consumerism is, with help from fields of technoscience, science education. Although it is likely not universal, much of school science seems to be oriented towards providing capitalists

with the kinds of citizens that may contribute to profiteering by the rich. Particularly in knowledge economies/societies, the overt emphasis often is on selection and education of the relatively few students who may assume professional careers as knowledge producers—such as scientists and engineers and other so-called symbolic analyzers (Reich 2007). As a useful by-product of this emphasis, however, school science also often appears to help generate masses of citizens who may best be prepared to serve as knowledge consumers—such as compliant workers and enthusiastic and unquestioning shoppers (Giroux and Giroux 2006). A perhaps interesting aspect of this latter process is that school science functions, like for-profit products and services, as a Trojan Horse—convincing students to ‘consume’ an idealized product (images of technoscience), while hiding from students compromises to it (e.g. business–science partnerships) that may be harmful to them.

Given the problems outlined above, it seems to us that capitalism needs to undergo a major reform (if not replacement) in ways that prioritize the common good. In light of its power, however, capitalist reforms are likely to be difficult. Perhaps a more feasible tack is comparable school science reform, given its key role in facilitating capitalist aims—such as structuring societies towards consumerism. We could, for instance, take Freire’s (1997) advice to promote *conscientization*—attempting to make people conscious of injustices associated with roles for fields of technoscience in production and marketing of material-semiotic entities associated with consumerism. Indeed, elsewhere (Bencze and Carter 2011), we and others (e.g. Hodson 2011) have promoted critical consciousness raising and, moreover, activism with regard to socioscientific issues like those pertaining to climate change, food quality and genetic engineering. Identifying those who would oppress others is not, however, necessarily easy. Often, those who limit the wellbeing of fellow humans and/or environments are unaware of their own oppressive character. Similarly, the oppressed often are not aware that they are oppressed; and they tend to identify with and/or want to emulate their oppressors (Freire 1997). Because of such complexities, moreover, Freire (1997) also recommended ongoing *praxis*, that is, critical, reflective, actions—always questioning and addressing power relations. Consequently, we must continually think of ourselves as ‘beings in the process of becoming—as unfinished, uncompleted beings in and with a likewise unfinished reality’ (Freire 1997, p. 65). Despite difficulties associated with conscientization and praxis, for the sake of the wellbeing of individuals, societies and environments, it seems clear that we must persist with them.

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J. Lawrence Bencze is an associate professor in science education at the Ontario Institute for Studies in Education, University of Toronto, where he teaches in the graduate studies and teacher education programmes. In addition to his Ph.D. (University of Toronto, 1995) and BEd (Queen's University, 1977) in education, he holds BSc (Queen's University, 1974) and MSc (Queen's University, 1977) degrees in biology. Prior to his work as a professor, he worked as a teacher of science in elementary and secondary schools and as a science education consultant in Ontario, Canada. His teaching and research emphasize history, philosophy and sociology of science and technology, along with student-led, research-informed, socio-political actions to address personal, social and environmental issues associated with fields of science and technology

Lyn Carter currently lectures in science and technology education to undergraduate primary and secondary teacher education students in the School of Education, Australian Catholic University at the Melbourne campus. She also lectures in postgraduate education, particularly in the areas of research methodologies and contemporary issues in curriculum. Her current research focuses on the broader influences on science education, and the use of cultural theory and sustainability as ways of expanding research within science education. She has published extensively in prominent international science education journals.

Chapter 58

It's Like You're a Teacher! A Social Semiotic Analysis of Authority Relations Among High School Mathematics Students

Jennifer Langer-Osuna and Indigo Esmonde

In North America and elsewhere, mathematics education has been in a state of transition for several decades. Teachers are urged to move away from lecturing at the chalkboard, and to instead create learning environments where students work collaboratively to construct mathematical knowledge. This shift in teaching and learning mathematics marks a concomitant shift in relationships of authority in the classroom. Some forms of classroom authority are more likely to be shared with students in such learning environments, including the authority to determine mathematical correctness or the authority to manage group tasks (Hamm and Perry 2002; Grave-meijer 2004; National Council of Teachers of Mathematics 1991; Stein et al. 2008).

This chapter draws on a social semiotic perspective to understand how this shift in authority relations relates to the interpersonal meanings and social positions that become constructed in talk during collaborative student work. A social semiotic perspective on how students take up and respond to these new forms of authority afforded to them may illuminate some of the challenges that educators experience in implementing these promising classroom practices (Stein et al. 2008). One challenge is that particular kinds of actions in the classroom take on new meaning. For example, in traditional mathematics classrooms, if students talk to one another, they may be positioned as off-task or cheating; yet, talking among students might be positioned as productive and desirable in reform-oriented classrooms. In traditional classrooms, when a teacher questions a student about a mathematical statement, the implication is that the student was incorrect. In line with current visions of effective mathematics classroom practices, teachers now routinely ask students to explain their reasoning, for both correct and incorrect statements. Researchers and educators have not sufficiently considered the possibility that these shifts in subject

J. Langer-Osuna (✉)
Stanford University, Stanford, USA
e-mail: jmlo@stanford.edu

I. Esmonde
University of Toronto, Toronto, Canada
e-mail: indigo.esmonde@utoronto.ca

positions, while potentially beneficial for student learning, may also be wrought with tensions.

In this chapter, we present some vignettes of mathematics classrooms that represent this state of transition. We focus on two classrooms where students had been accustomed to traditional teaching methods, and were encountering reform-oriented mathematics teaching for the first time. Analysis of the two vignettes is framed around the social semiotic concept of genre to illuminate how students negotiate these new forms of learning, focusing specifically on shifts in relations of authority. Of particular interest is the way students make sense of one another's enactment of typically adult forms of authority during collaborative work. Finally, we end with a discussion around tensions that students must navigate within these new learning environments, given the multiple kinds of relationships that exist among peers that are all infused with potentially conflicting relations of authority.

58.1 Social Semiotics and Mathematics Reform

The contribution of social semiotics to research in mathematics classrooms has recently been explored (Morgan 2006; Pimm and Wagner 2003). As stated by Morgan (2006):

An important contribution of social semiotics is its recognition of the range of functions performed by use of language and other semiotic resources. Every instance of mathematical communication is thus conceived to involve not only signification of mathematical concepts and relationships but also interpersonal meanings, attitudes and beliefs. This allows us to address a wide range of issues of interest to mathematics education and helps us to avoid dealing with cognition in isolation from other aspects of human activity. (p. 220)

In this chapter, we draw on the social semiotic concept of genre, defined as meaningfully combined semiotic resource systems with a set of shared, general characteristics (Halliday 1978; Lemke 2009; O'Halloran 2004) as a lens to examine relations of student authority in two reform-oriented high school mathematics classrooms. Genre is a key concept used to study "how semiotic resources are used to enact communicative interactions" (van Leeuwen 2005, p. 91); that is, how people indicate to one another what genre of interaction they are in, and how they mobilize semiotic resources to construct the genre. Studies adopting this approach have focused on "the *functions* of texts in social interactions, on what people *do* to or for or with each other by means of texts" (p. 123). For example, westerns, romantic comedies, and action films are three different genres of film, with a set of shared characteristics.

Seeing mathematics classrooms as exemplars of a particular genre allows us to look for patterns in talk and interaction. A genre analysis might examine typical patterns of interaction, or typical *storylines*, as well as the typical characters or roles that play them out (Holland et al. 1998). For example, a genre analysis of a typical traditional mathematics lesson might highlight that these lessons include a beginning (taking attendance, going over homework), a middle (teacher lectures

about new concepts, while writing on an overhead transparency or on the chalkboard), and an end (students work independently on problems that are similar to those explained by the teacher). The genre of initial calculus lectures includes a professor who does almost all of the talking, while the students silently take notes. Furthermore, the professor may adopt features of talk that are similar to an advertiser's persuasive talk, including inclusive "we" language, rhetorical questions, and colorful metaphors (Gerofsky 1999).

In the typical storylines for each genre, different characters play different roles in the story. In these two school examples, the key distinction in the characters is between teacher/professor and students. In fact, this distinction highlights the relational nature of identities within genres. In a classroom context, one person cannot be a teacher unless at least one other is a student (and vice versa). Similarly, if we think of a film genre like the western, there cannot be a "good guy" unless there is also a "villain" and a "damsel in distress." These identities are relational and exemplified by "what people *do* to or for or with each other" (van Leeuwen 2005, p. 123).

One technique for genre analysis is to collect a variety of examples from the genre, and then analyze what these examples have in common. In this chapter, we take a different approach. We will present data from two different classrooms in transition. In these transitional spaces, participants do not all agree about which genre they are actually enacting. We see "breaches"—moments in which a participant goes against others' expectations of how they are supposed to behave. An analysis of these breaches can reveal participants' expectations in ways that are not generally made explicit. The breaches are also moments in which participants explicitly regulate one another's behavior, and these forms of regulation are another key interest of social semiotics (van Leeuwen 2005).

For the remainder of this chapter, we will present vignettes from two different classrooms in transition. The first set of examples comes from a classroom in which the teacher was attempting to shift classroom norms toward a more reform-oriented approach. We conceptualize this shift as analogous to shifts *within* a genre; similar to shifts in the genre of western films, from the "classic western of the 1930s–1950s, to the "professional" westerns of the 1960s, in which the solo hero was replaced by a collective of heroes (van Leeuwen 2005). The second set of examples comes from a classroom in which the teacher was blending genres; the school in which the study took place was modeled after Silicon Valley professional "high-tech" workplaces of the late 1990s/early 2000s. This shift is akin to the blending of two film genres, such as blending romantic comedies with action films, to develop a new genre of romantic action films. The new classroom combined elements from both previous genres into a hybrid genre where students were acting "as if" they were adult professionals within a reform-oriented classroom.

Our analysis of these data vignettes focus on the typical use of semiotic resources by the various participants, and the ways in which participants regulated which semiotic resources were made available and how they could be used. We focus on the distribution of authority as one key aspect of the school genre that came into sharp relief through this process of regulation. Because the data come from two separate studies, and the unit of analysis differs slightly between the two vignettes, they are

presented differently. The first vignette focuses on a relatively long stretch of talk that is summarized in narrative form. The second vignette is presented through annotated transcript, to facilitate a close, line-by-line analysis of talk.

58.2 Vignette 1: Shifting Authority to Students in Mathematics Classrooms

One of the most important differences between the design of traditional and reform classrooms is in the distribution of authority. Whereas intellectual authority are traditionally enacted by the teacher or exist in the textbook, students in reform-oriented classrooms are expected to come up with their own mathematical conjectures, defend their ideas, and make their own decisions about what is or is not mathematically reasonable (Forman et al. 1998; Lampert 2001). For this reason, reform-oriented classrooms often use cooperative group work as a way to encourage more student-to-student talk (Esmonde 2009). When the teacher is not present during these small group conversations, students must employ various strategies to work together, and inevitably must take on several forms of authority for organizing their participation and managing opportunities to learn mathematics (Langer-Osuna 2011; Langer-Osuna and Engle 2010).

Despite this blurring of the boundaries of authority, there are still major distinctions between what students can do in the classroom, and what teachers can do. Teachers still have the final say over student grades, discipline, and classroom management. Teachers may also have final say over mathematical correctness. However, at the level of moment-to-moment interactions, it is possible to observe students negotiating the boundaries of their authority. In this section, we present a vignette that highlights students' awareness, and regulation, of the distinctive positions of adult and student authority in the classroom.

The first vignette is taken from a study conducted in 2004–2005 in a high school in California. The school was quite diverse in terms of race, gender, socioeconomic status, and language. The classroom discussed here was composed of ninth and tenth graders, and was considered to be a ninth-grade class. The teacher in this classroom was committed to mathematics reform and structured the class so that students worked in groups on a daily basis. Students were meant to be accountable to one another for mathematical understanding; they were not allowed to ask the teacher for help unless they had already discussed their difficulties as a group. The teacher attempted to shift much of the authority for explaining mathematical ideas over to students. In addition, students had to take on some authority for making sure that everyone in the group stayed on the task and made meaningful contributions.

We will focus here on a group of three students on a day when their regular teacher was absent, so a substitute teacher was there to assign tasks and make sure students got their work done. The group of three students included a White ninth-grade boy, Riley, and two tenth-grade African-American girls, Shayenne and Dawn.

Shayenne and Dawn were friends with one another. The substitute teacher was unknown to the students in the class.

Our analysis of group interactions revealed conflicting conceptions about which kinds of authority should be available to students. These conflicts allowed us to gain insight into some students' views about the mathematics classroom genre. Vignette 1 describes an interaction in which Shayenne explicitly compared Riley's behavior to that of a teacher.

Vignette 1 "Man, it's like you a teacher!"

Riley was leading his group through the solution to a problem. The problem contained a lengthy text, and students were expected to come up with a set of equations and linear inequalities that captured the information contained in the text.

When Riley asked his group, "Right, so what numbers would we want for that?" (referring to one of the constraints of the problem), Shayenne answered that she didn't know.

Riley urged her to "think about it," and continued to help guide through the problem. Shayenne interjected, "Man, it's like you a teacher," and laughed as she repeated his comment: "He said, 'well think about it!'" She turned back to Riley and suggested, "You should be a teacher someday!"

In this vignette, Shayenne explicitly labeled Riley's form of behavior as teacher-like. She highlighted a specific utterance as particularly teacher-like: "Well think about it!" This brief vignette demonstrates the divide between the roles of teacher and student. These two roles are defined in relation to one another—while undoubtedly, there are some points of overlap (e.g., both teacher and student discuss mathematics, both arrive at school each day), Shayenne highlighted an essential difference between them. The implication was that Riley's utterance, "well think about it," was not in line with expected behavior for a student. The previous day, Shayenne had made the same comment, "You should be a teacher," when Riley asked his group this question: "Say I was someone who, I just came here and I had no clue what any of this was, how would you explain that to me?"

These examples of group conflict around Riley's teacher-like behavior highlight that not all of the semiotic resources in the classroom were available to all of the students. Students could ask each other questions, provided they were "real questions," rather than "teacher-like questions" in which the person asking the question often already knows the answer (Esmonde and Langer-Osuna 2013). These examples also show how issues of power are tightly connected with the uptake and use of these semiotic resources. Riley can "act like" a teacher through his talk, but he cannot actually "be" a teacher. Obviously, this is, in part, because Riley did not have the necessary qualifications and accreditations to be a teacher, but it is also because of the relational nature of identities within a genre. Riley could not be a teacher because Shayenne and Dawn refused to be his student.

Riley's "teacher talk" is particularly interesting because it is aligned with expectations for students in the new genre of mathematics reform interaction (Hufferd-Ackles et al. 2004). Students are expected to explain their own mathematical thinking and probe the thinking of others. However, Riley's uptake of these expectations was positioned as inappropriate by his peers, thus highlighting the tensions at play

in this classroom. Students did not all have the same understanding of the classroom genre; instead, several different narratives were at play about how authority should be taken up by students.

58.3 Vignette 2: Blending School and Workplace Genres

In this next vignette, we complicate notions of genre shift in reform-oriented mathematics classrooms by focusing on a classroom that deliberately infused the genre of the professional workplace, adding another layer of how students were expected to interact with one another as if they were adult authority figures.

Within the broader movement toward student-centered mathematics classrooms in the USA and beyond, there have been recent calls for classrooms to explicitly prepare students for the modern professional workplace. For example, President Obama's (2009) statement on education priorities included "strengthening America's role as the world's engine of...innovation" by educating math and science students to "see the promise of being the makers of things, and not just the consumers of things."

This national discourse on workplace innovation invites another genre into the classroom: that of the modern, corporate workplace. The next vignette is based on a 2007–2008 study of a ninth grade project-based algebra classroom where this genre was particularly explicit. The classroom was part of a New Tech high school, a model of school reform developed in response to the business needs of the creative high-tech business world of Northern California, where employers seek graduates with "twenty-first century skills." In this model, authority between teachers and students is explicitly shared, and students work with one another as if they were professionals.

The focal classroom took seriously the narrative of the professional work environment by making available particular resources drawn from the workplace genre. For example, the teacher referred to himself as the supervisor, and students were required to create contracts between group members where, among other things, they chose and assigned each other professional roles such as "manager," "leader," "spokesperson," and "secretary." Furthermore, the team projects were meant to resemble those found in professional fields such as business, engineering, and architecture.

In doing so, the classroom infused a particularly adult context, unfamiliar to students for a number of reasons. For one, the students themselves, while perhaps having experience with some form of employment, were certainly personally unfamiliar with the professional careers such as the ones they were meant to emulate. Second, while students spent time with adults (in their family and community) who held professional jobs, the focal school was a long way off from California's creative, high-tech Silicon Valley. Indeed, the school was located in an urban community of color in North Carolina, where the most common careers were in construction and the service industry, although in this particular area a quarter of businesses

were black owned, over twice the percentage of the state as a whole. So while some students may have had role models who were entrepreneurs, it remains unlikely that students had much exposure to the intended workplace identities of the New Tech model.

Given this hybrid genre of doing mathematics, students in the focal classroom were expected to navigate relations of authority at multiple levels: (a) the relations of authority between teacher and students, (b) the relations of authority among peers, and (c) the relations of authority between the different professional roles such as the “manager” and those who were “managed.”

We draw on social semiotics as a lens to examine how students took up particular resources to enact and negotiate these available identities as they collaborated on team projects. The vignette below, analyzed as two excerpts, focuses on one particular group of students made up of one African-American girl, Brianna, and three African-American boys, Terrance, Kofi, and Brandon. During this particular team project, Brianna was chosen as group leader, a role that positioned her with the authority to issue directives to her group mates. Brianna drew on several resources—the group contract, her notebook, and the perceived discourse and spatial arrangement of business meetings—to enact a leader identity. Yet, her group mates responded to Brianna’s enactment of leader as a strong breach of authority, labeling her bossy and, at one point, going so far as to label her a “slave owner” who treated her peers as “slaves,” a particularly salient marker of deeply inappropriate abuse of power. The first excerpt of this vignette describes how Brianna evoked the professional workplace genre by calling a meeting in order to assign tasks.

Vignette 2a Working on “being bossy”

Brianna: (sits facing group mates who have gathered their chairs around her. Brianna refers to the notebook on her lap as she speaks, tapping with her pen often)	1 Terrance, you’re doing 2 what was your job at the beginning?
Terrance:	3 I was the secretary
Brianna:(points at Terrance with pen)	4 no. 5. You were finding safety features, right?
Terrance:(sarcastically)	6 Uh huh
Brianna:(looks back down to notebook and marks with pen)	7 I need you to keep doin’ that 8 Finding safety features... 9 OH, find the um, 10 [to Kofi, who is walking away] 11 where are you GOING? 12 We’re not finished
Terrance:(mockingly)	13 This MEETING isn’t over
Brianna:(points finger to air)	14 Til I SAY it’s over 15 We’re planning for the WHOLE week
Brandon:(slaps his thigh)	16 We’re SLAVES
Kofi:	17 Pretty much
Brianna:	18 And I am working on, um,

Terrance:	19 Being bossy?
Brianna:	20 OH... 21 (looks down) no
Brandon:	22 We already said what I'm workin' on
Brianna:	23 Pool staff, like, requirements, 24 And
Terrance:	25 Being bossy

Brianna draws on several available resources to mediate her role as group leader in order to distribute project-related tasks to the group. In saying, “I need you to keep doin’ that” (line 7) and “[The meeting isn’t over] ‘til I say it’s over” (line 14), Brianna drew on linguistic norms specific to business meetings. However, the other students interpreted Brianna’s business-like approach as inappropriate, repeatedly positioning her as “being bossy” (lines 19, 25) and stating that Brianna was treating them as “slaves” (line 16). Soon after this exchange, Brianna lost control of the meeting as her group mates stood up and began to walk away from her and toward their seats. In vignette 2b, Brianna attempted to regain control, Terrance and Brandon drew on their assumptions about the linguistic norms of the professional workplace to mock Brianna.

Vignette 2b “Until she says, ‘thank you for your time and good day”

Brianna:(Kofi starts to roll his chair away from Brianna)	1 I’m not FINi:shed!
Terrance:(looking at Brandon, smiling sarcastically)	2 Until she says, 3 Thank you for your time 4 and good night
Brandon:(faces Terrance, smiling)	5 Until she says, 6 Thank you for your time 7 and good day
Terrance:(smiling)	8 Have a good day

In the excerpt above, group members Terrance and Brandon mocked Brianna’s identity as “boss” by performing the perceived discourse of business meetings. As Brianna struggled to hold the attention of her group mates (line 1), Terrance used sarcasm to remind his group mates of the linguistic norms that marked the ending of a business meeting, “Thank you for your time and good night” (lines 2–4), which Brandon corrected to “...and good day” (lines 5–7). Terrance picked up on the correction from “good night” to “good day” and further refined the assumed linguistic norms of the professional workplace by adding “Have a good day” (line 8).

The above vignette highlights conflicting relations of authority in a classroom characterized by not only a shifting narrative of schooling that expected students to take on forms of authority traditionally afforded only to the teacher but also by the infusion of an unfamiliar adult narrative of the professional workplace. The classroom was constructed as a hybrid space where expectations around identities of authority were unclear, and, as with this group, in conflict. Regardless of the intent of the classroom teacher and more broadly the New Tech model, the hierarchical

nature of the professional workplace—with managers and subordinates—was at times perceived as inappropriate among these school peers (Langer-Osuna 2011).

The intent behind the design of the project-based classroom was to support increased student engagement, more powerful identities as learners and, ultimately, richer learning opportunities for students. The use of group roles, in particular, was meant to mitigate the social hierarchies among peers that tend to marginalize some students and privilege others. The role of the group leader was not Brianna's alone. Over the course of the academic year, all students were meant to ultimately play group leader, as well as several other kinds of possible roles, structuring more equitable and powerful classroom dynamics.

Yet when a particular student takes on a role infused with authority, such as that of group leader, the other group members must all agree to let that person temporarily be more powerful than the rest. Here, group members were unwilling to hand this power to Brianna. The expected relations of authority within the classic narrative of schooling were compounded by identities made available by the infusion of the workplace narrative such that Brianna's enactment of leader was not only mocked but also positioned as a breach of power.

58.4 Discussion

The genre of high school mathematics classrooms has been in a state of transition as many districts, schools, and teachers have and continue to respond to the recommendations of reform-oriented documents such as the National Council of Teachers of Mathematics' Principles and Standards for School Mathematics (2000). The emerging genre affords far more authority to students in the form of creating mathematical arguments, judging and debating the reasonableness of such arguments, and taking on adult-like roles in managing their own and each other's engagement in collaborative work. In times of transition, different ideas about how this genre is supposed to play out clash, and students are expected to learn new uses for existing semiotic resources, as well as uses for new sets of resources, including who gets access to what resources and in what ways.

The ideas of theoretical potential versus actual potential of semiotic resources are particularly useful in this discussion (van Leeuwen 2005). In the design of these learning environments, the enactment of these new identities is intended to be beneficial for all students. First, participation structures such as small group student-led discussions, group contracts, and student roles have the theoretical potential to increase engagement in mathematical activity. Students have means by which to author and debate ideas, and take co-ownership of collaborative work. Second, as students do so, these and other classroom resources have the theoretical potential to support powerful learning identities. Students are more likely to be positioned as credible sources of information than in traditional learning environments where such positions of intellectual authority reside mainly with the teacher and textbook. Students are also more likely to identify with classroom activity when their own

ideas, experiences, and preferences can become part of problem solutions. Third, resources made available in student-centered classrooms have the theoretical potential to support rich learning opportunities. Students can draw on open-ended tasks, student-centered participation structures, and positions of authority in ways that afford access to sense-making activity rather than potentially meaningless procedural tasks.

However, the intended use of classroom resources can collide with the actual histories of authority relations in the narratives drawn from the classic genre of schooling and in students' personal storylines. Students are expected to seamlessly take up these new identities without educators explicitly acknowledging the dilemmas of classroom hybridity, given the multiple kinds of relationships that exist among peers that are all infused with potentially conflicting relations of authority.

It is no wonder, in some ways, that the implementation of student-centered mathematics classrooms has been experienced as challenging for educators. These shifts in student authority, and how students negotiate these new identities and relationships, ought to be examined more closely as a possible lens by which to understand and ultimately mitigate some aspects of these challenges.

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Jennifer Langer-Osuna is an assistant professor at the Stanford's Graduate School of Education. He joined the Department of Teaching and Learning at the University of Miami after receiving her doctorate in cognition and development at the University of California, Berkeley. Her research focuses on the nature of student identity and engagement during collaborative activity, and the ways in which authority and influence are constructed in interaction. Recent work has focused on developing theoretical and analytic tools to capture how students become kinds of learners and how those identities shape student engagement in classroom tasks. Her current work, funded by a National Academy of Education/Spencer Postdoctoral Fellowship, applies these tools to understand how English learners negotiate mathematical ideas and positions of authority as they collaborate with English-proficient peers

Indigo Esmonde is an associate professor with the Department of Curriculum, Teaching, and Learning at Ontario Institute for Studies in Education (OISE). Dr. Esmonde's research is situated at the intersection of two fields of study: the learning sciences, and equity studies. Broadly speaking, researchers in the learning sciences consider the process of learning in a wide variety of contexts, while those in equity studies consider the ways in which schools and other institutional contexts perpetuate inequitable relations of power in society, as well as how to subvert and challenge these injustices. Dr. Esmonde's research at the intersection of these two fields has focused on learning mathematics across a variety of contexts, both inside and outside schools, and has considered issues of power and identity in mathematics teaching and learning

Chapter 59

“If You Could See What I See”: The Semiotics of “Invisibility” in Pedagogy and Practice

Marc A. Ouellette and Kane X. Faucher

59.1 Tell Me What Should I See: Introduction

While “critical pedagogy” looms over every university course, the cognitive and affective responses to the thematic emphasis on “invisibility,” especially from two groups of students—School, Community and Global Connections (Ouellette), and Social Networking: Theory and Practice (Faucher)—that presumably would be the best equipped and most predisposed to the analyses, indicate that the semiotic grounding of the term remains necessary, and even crucial for success.¹ Part of the confusion for a significant portion of the representative cohort during the winter 2011 offering of the School and Society course at the Ontario Institute for Studies in Education (OISE) stems from ways in which “invisibility” has and has not been presented in the course. As offered in the course, especially in the literature attached to it, “invisibility” remains undefined and instead serves as an umbrella term for a series of disparate processes. In this regard, the semiotic components of the term, including the status of the sign and the related processes of discursive regimes, ex-nomination, and interpellation, among others, help to locate the concept and to establish its analytical purchase. Each of these has been clearly enumerated and analyzed within the interdisciplinary arc of cultural studies, especially those which

¹ Throughout the chapter, “course” will be used to refer to a specific offering. This is to avoid confusion when issues of “class” arise. The latter will refer only to social hierarchies. As well, the group taking the class is a “cohort,” since this is the way that OISE identifies groups of students based on the shared interests and experiences of the individuals in the groups. Similarly, “invisible” and “invisibility” appear within the diacritical marks to identify the usages from the course.

M. A. Ouellette (✉)
Reconstruction: Studies in Contemporary Culture, Ontario, Canada
e-mail: ouellema@gmail.com

K. X. Faucher
Western University, London, Canada
e-mail: kanefaucher@yahoo.ca

bear the traces of semiotics. While “invisibility” can be conceived as a theme, it has succumbed to a vertiginous polysemy insofar that the multiple and sometimes contradictory trajectories limit its potential as a critical device that might be useful not only in teacher education but also in teaching practice as well. Likewise, among the students for *Social Networking: Theory and Practice*, issues of invisibility with respect to the obscured bitstream, the hodological spaces of social networking algorithms, and their impact on everyday practice, were not cognitively aligned with the willful subordination of self to these concealed regimes, which thus resulted in instances of written and verbal counter-classification statements to construct a logonomic space of resistance.² Although our approaches to the problematic of “invisibility” differ insofar as Ouellette’s stance is derived from cultural studies, and Faucher’s from theory and philosophy, both will converge on the semiotic plane. While both have been teaching the relevant material for some time, the former’s perspective also reflects having been a student in the *School and Society* course while obtaining additional certification during a year away from university teaching.

Ultimately, a semiotic analysis of the courses and the readings reveal that “invisibility” offers a means of understanding the naturalized discourses and relations of power, the operation of normalized structural barriers that impede the success and the access of minority groups, and the often obfuscated biases produced by the combination of the two. Very frequently these derive from the unstated assumptions about normality produced by all of the above. What we are given to understand is, from the standpoint of logonomic considerations, the “school” or “course” domain is permeated by even larger prescriptive social and media domains that govern the very biases, set the barriers, and inform the beliefs of the cohort and class groups. “Invisibility,” then, becomes useful in describing issues that might stem from a lack awareness that the issues even exist or are necessary to consider, especially when one has a stated and proven commitment to diversity and equity in global education, as was the case for the OISE cohort. Exacerbating the situation is the *School and Society* course instructor’s own assumption that others will see, as it were, the “invisibility” that he quite rightly perceives. This is significant because there is a well-established critical vocabulary—a kind of toolkit—for unpacking and for revealing that which is said to be “invisible.” Admittedly, the challenge is to balance the tedium of an analysis starting from first principles with the attraction of a catch-all term like “invisibility.” Thus, this chapter situates the primary usages of “invisibility” within an available critical vocabulary grounded in semiotics while elucidating the connections between the two. At the same time, it is important to consider the sources and the effects of each group’s occasional confusion by examining representative instances in light of the semiotic vocabulary that spans the divide between the content and the cohort. In this way, the opportunities lost during these particular offerings of the courses might serve to enhance future iterations.

² To avoid any specific identification of any students here, Faucher will refer to this course in its broader delivery, over its 15 iterations in the past 5 years.

59.2 Flushing Plato’s Cave

A history of the “invisible” is indissociable from a traditional metaphysical standpoint that privileges presence over absence, and yet—as Derrida reminds us—it is this absence that guarantees the privilege of the present by means of constructing the other that can be dialectically opposed, marginalized, and eventually sublated by means of the synthesis, or *Aufhebung* in Hegelian terms. If we pay a special attention to the normative lens through which the rise of the sciences attempted to render the world visible to the naked eye with the aid of sense extenders that granted visual access to the very large (Galileo’s telescope) and the very small (Leeuwenhoek’s microscope), inasmuch as this revealed a hitherto “hidden” world that expanded our understanding of the world, this also concealed the world beneath the instrumentalism of science. There is perhaps no better example of how this power function of the rendering visible marks invisibility than in the turn to anatomical studies, especially Soemmering’s inaugural illustration of the female skeleton in 1796 (although earlier anatomists such as Vesalius had already pioneered the turn to illustrations that were scientifically instructive rather than decorous, ornamental, or allegorical for moral instruction as one would find in medieval bestiaries). What is “hidden” in the revealing of the female skeleton is not the sex differentiation itself, but the power relations of gender where, in a nod to Laura Mulvey, the female is to be “looked at,” and in this context through the hegemonic lens of clinical science.

The scientific turn which brought to the fore discoveries of the blood circulation system, or in the detail provided by such anatomists like Albinus and Sandifort that are now housed in the Anatomical Museum in Leiden, are constructed with the aid of autopsy, or “beatific vision” from which we derive the modern term of “autopsy.” An autopsy, as a forensic practice, aims to reveal, in largely Enlightenment terms, the causes and functions of the body in a particular state (generally of arrest in the form of death), but renders invisible the very sense in which bodies can be expressed, overcoded by scientific rationality. In Heidegger’s term, *Lichtung*, we are presented with a double meaning where to reveal is also to cast light upon, to illuminate. And yet it is this wash of light that may, in fact, conceal other features and render them invisible. The question turns on what particular light we choose to cast upon those features which we choose to see. Perspectival subjectivity cannot help but to focus on one aspect at the expense of others, and the very foundation of objectivity in the form of science may, in fact, be a kind of focus that conceals from view the alternative perspectives.

In the more contemporary context, the visible rendered invisible is part of the disappearance of the subject. Baudrillard notes that the hypertelia of the postmodern world that focuses and amplifies minutiae renders invisible the subject by breaking any allegiance to the signifier-signified chain, and thus making signs rootless and “obese.” A concrete example of this process can be seen in several media venues, such as reality shows where the actual production conceals the scaffolding of the narrative construction (the staging of events, in-house edits which delete contrary narrative subplots, etc.), or in the domain of online social networking where constant

communication conceals the painful truth that it may be mostly communication for communication's sake, not an activity indexed on substance or the strengthening of social bonds, and possibly a controlled space for targeted advertising and promotionalism.

These multiple and simultaneous deployments highlight the benefits of a precise critical vocabulary. First, occasions that might lead to confusion can be reduced. Here, such instances proved to be of the sort that led to students effectively stating, "but that's what I thought you meant by 'invisible'". Second, the precise vocabulary leads to a sense of power or ownership by offering a concrete term with which to identify relevant examples. This has the further benefit of reinforcing the concept through recognition and recall. This is reflected in statements that could be categorized as "I know what this is."³ However, student interactions outside the School and Society classroom indicate that confusion led to frustration, with "invisibility" becoming a symbol of sarcasm and mockery instead of an index pointing to instances of structural inequality. In the latter regard, the commentary became part of cohort members' teasing and banter based on the conclusion that the School and Society course's purpose is to suggest that every teacher is an invisible racist.⁴ This prevailing attitude reveals two concurrent processes. First, the critical vocabulary and understanding of admittedly basic cultural theory concepts have been assumed. Simultaneously, though, "invisibility" also seems to be tautological so that the cohort resistance to the presence of "invisible" biases, barriers, and beliefs seems only to confirm their invisibility insofar as the cohort cannot see them. Locating precisely how and why this came to be the case indicates that "invisibility" serves as both a rationale and an outcome. It is its own explanation and its own mode of analysis. Yet, the overwhelming position of the cohort reflects the same premise. Membership in the group serves as both a rationale and an outcome based on the stated and proven commitment to diversity and to inclusivity in education. Perhaps it was inevitable that these two unspoken, invisible tautologies would clash despite the obvious and potentially productive confluences between them.

In Faucher's course, the "invisible" takes on similar features among the students as they operate by taking to Twitter to publish judgments on course content in ways that they may not realize that the "invisible" public may, in fact, be among the recipients. The illusory nature of high-trust digital environments obscures the unintended from the intended audience, the "digital natives" assuming that their sole audience is only a small cadre of friends or followers, whereas they may be oblivious to the snoops, eavesdroppers, creepers, and flaneurs who inevitably populate the social

³ It is worth mentioning here that the concept of naming is a crucial one for the teacher education seminar course and for the "global" cohort (as it is known) given the colonizing implications—that is, relations of power—of the act of naming. It should go without saying that naming is an act of empowerment, but this is another of the lessons that seems lost. For the philosophical implications of the name, see Jacques Derrida, *On the Name* [Sauf le nom]; for an account on naming practices and power, see Michel Foucault, *The Birth of the Clinic*, and the section on classificatory regimes in *The Order of Things* [Les mots et les choses].

⁴ In fact, just sitting in the lounge area on the fifth floor of the OISE building during lunch will reveal members of many and several School and Society courses sharing a similar take.

web. The very concept of “digital native” in itself refurbishes the dubious binary of the civilized/other by substituting new terms: the digital native/immigrant. The temporal inversion that takes place here, subtended by the digital technologies, is apparent: The native comes after the immigrant in time, but the native comes before the immigrant in terms of ecstatic use of digital technology, demonstrating an assumed savviness where frequent use is conflated with a deeper understanding of the technology.⁵ The frequent invocation of “digital native” in popular media belies the pejorative codes and contexts to which such terms refer.⁶

59.3 The Invisible and the Invisible: Terms and Scope

Ouellette’s disciplinary bias will always run toward cultural studies, but this offers myriad productive possibilities since the School and Society course surveys consumerism, gender, sexuality, mass media, and accessibility. Not only are these topics primary foci for cultural studies, they are also reflected in the theoretical underpinnings of the readings on the syllabus. In fact, the relevant connections abound since cultural studies overlaps with and derives from fields such as gender studies, sociology, and media studies. These relationships underscore the centrality of pedagogy in cultural studies. Education was among the primary objectives that led to the development of British cultural studies and this emphasis followed the discipline to North America. Of greater significance to this chapter and the collection to which it belongs is the influence of semiotic analyses on the field, starting with and following from the foundational conference and accompanying anthology, *Cultural Studies* (Grossber, Nelson, Treichler, 1992). This is important because the means of reifying

⁵ In Faucher’s course, he elicits from students the realization that much of the digital social networking is based largely on improvements to cybernetic applications, and that despite a prevailing perception of savviness with the technology—students who fancy themselves as masters of their mobile world—this savviness is undercut by the plain fact that (a) the technologies and social software demand some degree of subordination as the price of inclusion, and that; (b) true mastery as a condition of savviness might require extensive knowledge in how to code the software as a gesture of autonomy toward a true liberation technology. In this way, extensive usage is not mastery or understanding.

⁶ There is an inherent and widespread giddiness of communication that, because it may have nothing to say, feels an even more desperate need to express on account of being disconnected from meaning. This, says Baudrillard, is part of our ecstatic cycle, the pornography of networks and circuits that shifts from the hot passion of objects to the cool obscenity of communication. Instead of a diverse audience rallying together in an online milieu to share different perspectives, the effect has been opposite: a flattening of the cosmopolitan image into a series of exchanged quips, banal minutiae, and the obscene proliferation of links to other content. The cause may be what Virilio calls “the pollution of distance,” but it cannot be the only factor in a network of polyvalent attitudes that have abdicated a distinct ego as either producer or consumer into the every-citizen “producer.” At such a juncture, the alienation Marx speaks of is not only internalized and self-generated but also self-managed at the level of the microprocesses of our communicative involvement in the online environment.

“invisibility” are readily available, provided one is willing to do the necessary semiotic considerations.

Faucher’s disciplinary bias emerges from his background in the history of philosophy and twentieth-century continental thought, even though he brings this to bear where he is currently situated, in a media, information, and technoculture program where, very much like cultural studies, it shares an overlap with other germane areas in sociology, gender studies, and a strong emphasis on political economy. However, the issue of critical pedagogy in such programs (and here we might include the more generic media studies programs) continues to surface with respect to the confluence between new media and digital learning alternatives. Such programs are suited to evaluate the meaning of such tools and practices from a critical standpoint that merges political economy with the history of communication. This focus on the “digital experience” is then rendered visible by means of nesting such “innovations” in their historical context.⁷

59.4 Ouellette: Reflections on Practice

In teaching undergraduate courses in cultural studies, one of the most challenging concepts to convey and for students to grasp has been “exnomination,” or “ex-nomination,” depending on the translation or the textbook in question. Not surprisingly, then, this was the most frequently occurring type of “invisibility” in the School and Society course. For example, when Peggy McIntosh (2008) explains the “invisible package of unearned assets” that contribute to and underlie white privilege, she is referring to the operations and the effects of the exnomination process (p. 133).⁸ In another instance, Jackson Katz’s “Advertising and the Construction of Violent White Masculinity” (Katz 2003) invokes Bob Hanke’s adoption of “invisibility” to offer the same analogy for the outcomes rather than the process of exnomination (p. 350). Furthermore, when Carl James (1994) speaks of white history as the only history, he refers to its exnomination (p. 26). Similarly, when Tim McCaskell (1995) observes, “Class is one of the most difficult power relations to speak” he is

⁷ We might also mention here that the term “innovation,” currently in fashion by various provincial parties, lacks any operational definition as such, and that the turn to digital learning technologies without due preparation, reflection, or a proper evaluative framework is of a piece with what is perhaps the hidden agenda: how to further cut the costs of postsecondary education without compromising on the volume of students that enter into it. As white papers produced by those such as then-Minister of Colleges, Training, and Universities, Glen Murray of the Ontario Liberal Party, or Ontario Progressive Conservative Leader Tim Hudak’s own paper attest, digital learning is seen as a kind of “magic bullet” that will deliver cost-effective education. The enthusiasm, arguably economically driven and thus disingenuous, surrounding digital learning alternatives and MOOCs is not universally shared by students in a variety of surveys already conducted by bodies such as the Ontario Confederation of University Associations that point to the continuing desire and value of in-class learning options.

⁸ For the purposes of this chapter, I am using a different version of McIntosh’s widely anthologized article than the one given to the cohort only so that a full and complete citation can be given.

noting the unseen effects of exnomination (p. 266). These references comprise a representative portion of the readings that were presented to the cohort in order to expose "invisibility." While the authors refer to cognitive and effective responses to the process, the reading does not explicitly name, define, or describe exnomination, which was enumerated by Roland Barthes, in mythologies (Barthes 1972), to explain the ways in which the dominant social class, or the bourgeoisie, exists as "the social class which does not want to be named" (p. 138). This is how the dominant group becomes "invisible." According to cultural linguist Robin Talmach Lakoff (2000), the dominant class then "become apolitical and nonideological. They just are. Their rules become the rules. [...] The same claim can be made of white middle-class males in contemporary [North] America" (p. 54).⁹ It is well worth noting that Lakoff's explanation of the exnomination process offers "invisible" as a means of understanding Barthes' (1972) analysis. In this regard, Lakoff (2000) writes, "If you are a member of a dominant group, your attributes are invisible, as your role in making things the way they are is not noticeable" (p. 54). As well, exnomination relies on the historic, systemic, and institutionalized dimensions of the dominant codes to render the prescribed values as natural so that the class interests become invisible. Noted cultural studies scholar John Fiske (1996) explains: "That which is exnominated appears to have no alternative and is thus granted the status of the natural, the universal, or that-which-cannot-be-challenged. [...] Nominating disruptive discourses and exnominating that of social control is a common tactic of semiotic and ideological containment" (p. 238). In other words, exnomination can be understood as a denial or obfuscation of the distinguishing sign of difference. The challenge in recognizing instances of exnomination occurs because doing so means questioning practices and beliefs that seem natural that exist as "common sense."

Barthes' own exnomination shares a zone of overlap with Debord's notion of the spectacle that inverts reality, assumes reality, and dictates all that is permissible. In a society dominated by the spectacle and its profusion of images, the tripartite alienation of self from self, self from other, and self from world comes to condition the very impossibility of visibility. The idea that particular values and ideals might reflect class interests which have become normalized and naturalized can be threatening. Certainly, this has been the case in observing the reactions of members of the cohort to the topics in the School and Society course. In the glossary of their *Pop Culture: A User's Guide* (2010), Susie O'Brien and Imre Szeman (2010) offer this definition:

the process of ex-nomination ensures that we see the values or attributes of dominant groups not as the product of particular class interests, but simply as apolitical, intrinsic human values that are, therefore, as unsuitable for critique as a grapefruit or any other "real thing." Ex-nomination also works to legitimate the dominance of specific racial and cultural groups by failing to acknowledge or "mark" their distinctive qualities (e.g., white, heterosexual), thereby assuming their universality. (p. 358)

⁹ Robin Talmach Lakoff should not be confused with her spouse, George Lakoff, who is also a noted cultural linguist who teaches at the University of California.

The last point is especially crucial because it emphasizes the ways in which the class interests underlying the distinguishing signs become invisible. Furthermore, the assumption of universality rests entirely on the unquestioned status of the related beliefs as ordinary or normal.

In this last regard, the status of practices and beliefs as normal occurs in and through discourses of power. Chris Weedon (1997) explains that discourses are “ways of constituting knowledge, together with the social practices, forms of subjectivity and power relations which inhere in such knowledges and relations between them. [...] They constitute the ‘nature’ of the body, unconscious and conscious mind and emotional life of the subjects they seek to govern” (p. 108). Simply put, discourses enumerate what is acceptable and true at a given moment. It is the unconscious dimension which renders their operations invisible. Here, Stuart Hall (1996) offers two important provisos. First, “every discourse constructs positions from which alone it makes sense. [...] Anyone deploying a discourse must position themselves as if they were the subject of the discourse” (p. 202). Thus, exnomination represents an absolutist discourse based on the unassailable signs that support and buttress the always already dominant class. Second, it is worth recalling that in an earlier, much more explicitly semiotic analysis, Hall (1977) challenges the absolutist rhetoric that circumscribes and forecloses disagreement when he writes, “You cannot learn, through common sense, how things are: you can only discover where they fit into the existing scheme of things. In this way, its very taken-for-grantedness is what establishes it as a medium in which its own premises and presuppositions are being rendered invisible by its apparent transparency” (pp. 325–326). As in the previous analyses, “invisible” serves as means of explaining the effects of the process, rather than the process itself. In this way, the bearers of the discourses and the signs being denied becomes that targets of the analyses. This is important because the bearers of the discourse reproduce it and its effects.

This significance becomes more profound given that prospective secondary school teachers comprise the target audience for the lessons on “invisibility.” In fact, the undefined, unmapped, and unacknowledged semiotic plane might bridge the gap between the “invisibility” of exnomination and the “invisibility” of common sense discourses. Moreover, the responses of the cohort group actually mirror the exnomination process. Indeed, the substance of the responses map precisely onto Hall’s description of the deployment of discourses. The cohort’s reaction to the instructor’s decision to air a section of the documentary, *Tough Guise*, without first inoculating the group provides the best example of the ways in which “invisibility” as a term or concept offers entry points for investigation and yet lacks the specificity needed to follow through on those insights. The film explores the connections between masculinity and violence, especially in terms of the gratuitous violence found in television and in movies. The cohort had not been warned of the violent content or its graphic nature and some were understandably upset by the content and by the lack of warning. Conversely, several members of the cohort claimed that the violence was not offensive because it was not any different than what appears on TV, because TV and film are just escapist entertainment, and because those committing

the acts were clearly the bad people. One member of the cohort went so far as to question whether or not a complaint really came from another member.¹⁰

For his part, the instructor apologized for the content and for not warning the class about it. Contrary to the opinions expressed by some in the class, the situation is not nearly the same as watching TV or a movie. In the classroom, the members neither have the option of changing the channel nor will leaving early result in a refund! The latter, especially, is a reminder of the power relations at work within the structure since absenteeism is frowned upon at OISE and this particular instructor—along with his teaching assistant (TA)—have placed a greater emphasis on attendance and participation than most other instructors to the point of admonishing students—even those with identified exceptionalities—about the use of laptops in class. Eventually, the instructor offered “invisibility” as an explanation for the failure to warn the class. However, it seems that an opportunity was lost in not examining the power relations and their underlying assumptions.

What seems to be overlooked entirely in the reactions of the student and of the instructor is that the ordinariness of the beliefs can only exist if the bearer is a member of the dominant class and the distinguishing signs of dominance remain denied or “invisible.” Here, the instructor’s whiteness, maleness, and his position at the front of the classroom all serve as signs of privilege.¹¹ Furthermore, television programs and movies only qualify as mindless or escapist entertainment if there exists content within the circumscription of the dominant culture. All of these seem normal or ordinary, but only within those paradigmatic and syntagmatic limits. It is well worth recalling that the group in question had to apply and to qualify for the school, community, and global issues cohort based on their proven qualifications and commitment to diversity. While the exnominating tendency and the associated denial of the distinguishing signs of dominance can be described as “invisible,” they are so strongly entrenched, even for this cohort that a catch-all term like “invisible,” is insufficient as a means of understanding, let alone analyzing the processes involved. Admittedly, there were other members of the cohort who are as puzzled as I am regarding the unwillingness of the majority of the cohort to interrogate many of the issues raised. We provided a small but not silent minority, one whose comments were tempered by the need to balance disagreement with the reality of multiple group assignments in multiple courses.

This “invisible” structural power served to regulate and to condition interactions so that a full interrogation of the processes would be endlessly deferred. Equally puzzling, though, was the way in which “invisibility” is put forth in classroom discussions and in the supporting readings. It appears so flatly, so plainly, as though its existence is a given, is transparent, as it were. Therefore it does not require any

¹⁰ In the related, work, “‘What is essential is invisible to the eye’: Enumerating “Invisibility” without a Present Vocabulary in Teacher Education,” I analyze more closely the commentaries of the cohort, which are included in detail. This work has not yet been published but currently is under consideration elsewhere.

¹¹ For a terrific semiotic analysis of the institutionalization of these signs in education, see Dick Hebdige’s widely anthologized *From Culture to Hegemony* (Hebdige 2001, pp. 202–203).

critical unpacking of its own or any location of its status as a sign, or a catalogue of signs. The structural and institutionalized dimensions of “invisibility” appeared at the very moment the School and Society course began. When presented with the content, some students responded very vocally, “We are the Global cohort, we already know about these issues. We’re here because we get it. We don’t need this.” In this way, membership in the cohort, and indeed, the name of the cohort, functioned as a sign in their own right. Instead of exnomination, though, this version of “invisibility” more closely matches Hall’s previously cited axiom regarding discourses of dominance, in which the bearer is always already the subject of the discourse. Thus, the cohort and its status among other cohorts became the topic and the key issue of global education, global issues, diversity, racism, etc., become secondary considerations. Moreover, the sarcasm regarding the course’s presumed preoccupations maps onto the second of Hall’s provisos: the cohort makes sense but the course, and by extension, its content, does not.

Undoubtedly, “invisibility” functions as an umbrella term. In this role, it serves as an indexical sign, pointing to the processes implicated in its course. The attitudes, beliefs, and practices outlined above have been learned and accepted. However, the instantaneous reactions of the cohort reveal an almost instinctive level of response. In semiotic terms, “naturalization” refers to the process by which learned behaviors and dispositions become automatic. As Stuart Hall (2006) explains,

The naturalizing moment is weak because it naturalizes and dehistoricizes difference, mistaking what is historical and cultural for what is natural, biological and genetic. The moment the signifier [...] is torn from its historical, cultural and political embedding [...] we valorize, by inversion, the very ground of the racism we are trying to deconstruct. In addition, as always happens when we naturalize historical categories, we fix that signifier outside of history, outside of change, outside of political intervention. And once it is fixed [...] as sufficient in itself to guarantee the progressive character of the politics we fight under the banner [...] We are tempted to display that signifier as a device which can purify the impure, bring the straying brothers and sisters who don’t know what they ought to be doing into line, and police the boundaries—which are of course political symbolic and positional boundaries—as if they were genetic. (pp. 475–476)

In this (admittedly) lengthy passage, Hall explains not only what happens when dominant discourses become naturalized but also, more importantly, what happens when progressive causes become institutionalized. As eminent semiotician Daniel Chandler (2002) explains, codes and beliefs “which have been naturalized are those which are so widely distributed in a culture and which are learned at such an early age that they appear not to be constructed but to be ‘naturally’ given” (p. 235). Thus, naturalization is the process by which beliefs and paradigms—that is, discourses or discursive formations—become “transparent” or “invisible.” Taken further, some of these beliefs then become exnominated.¹² Indeed, this is the process through

¹² By way of example, the most successful entry point to teaching these processes has been to ask students to describe a scientist. In listing the scientist’s attributes, they have, without fail, described someone who looks like Einstein. However, what they fail to state in the process is the assumption that the scientist is a man, a white man. At some point in the exercise, they simply begin to state “He has...” without ever saying “He’s a ‘he’.” A similar exercise has been done regarding the

which the values of white, middle-class suburbanites become the underlying values in schools. However, as Chandler (2002) also explains, denaturalizing the beliefs requires a detailed and stepwise analysis (pp. 215–216). This is precisely what is missing in adoption of a catch-all term like “invisibility.” While it is useful as an indexical sign, the significance lies in the processes to which it points.

Leaving “invisibility” as the extent of the analysis runs the risk of limiting the analytical purchase. Simply put, when deployed as a concept, “invisibility” serves as its own rationale and as its own outcome. Yet, as an entry point it leads the processes by which the codes and conventions that produced the situation also become their own rationale and outcome. In this regard, the naturalization of the dominant discourses has two important effects and these are revealed in the cohort’s cognitive and affective responses to the interrogation of the distinguishing signs of difference. Specifically, the cohort’s belief that the School and Society course was unnecessary for them, echoes Hall’s statement regarding the naturalizing moment. Furthermore, an elucidation of the naturalizing moment reveals instances of “difference that isn’t different.” Said another way, even if the distinguishing signs of difference are recognized, the cognitive and affective responses to them are still conditioned and contained by the discourses of dominance. This occurs in two simultaneous directions. First, the recognition of the sign signals that the topic is understood and therefore no longer requires consideration or effort. In the second case, if there is a consideration, that will always already be circumscribed and prescribed in and through the dominant discourse. What becomes clear is that the distinguishing signs of difference—race, ethnicity, gender, class, sexuality, etc.—stand out while the distinguishing signs of dominance remain invisible. This is unfortunate when the stated goals of the course and its content consist of exposing rather than reaffirming and reinforcing the “invisibility” of those constructions. However, the outcomes reveal the insufficiency of “invisibility” as a conceptual device, at least without the contingent semiotic analyses.

59.5 Faucher: Reflections on Practice

In my own course, *Social Networking: Theory and Practice*, I conduct a “digital detox” assignment where students are asked to refrain from using online social networks for a period of 5 days while writing brief diary entries for each day. Part of the rationale for the assignment is to merge personal experience with the objective understanding of online social communication’s ubiquity—and thus invisibility—

exnomination of heterosexuality by Martin Rochlin (2008). In his widely circulated questionnaire, first published roughly 40 years ago, Rochlin asks a series of questions often asked of homosexuals but never asked of heterosexuals, including, “Do you think if you had a good gay lover, you’d switch?” “Why do heterosexuals flaunt their sexuality by having children?” and “When did discover you were a heterosexual?” (pp. 299–300). The intent is to show that heterosexual is denied as a category and instead is an unstated default within the dominant discourse. This renders any other formation as deviant instead of being just another possibility.

with respect to everyday habits. Most students acknowledge the existence—and perceived importance—of their digital devices, but many may be oblivious to their effects. After the conclusion of the assignment, all diaries were anonymized into a single master corpus and sent back to the students for the purposes of writing an objective report that took note of common trends, sentiment, and keyword analysis, and other metrics for obtaining a better sense of technological impact on habits, dependencies, and social communication preferences. Despite a large number of students who had reported revelatory moments of having more time to complete important tasks, or in having a waking moment of the senses in not having their eyes tied to their screens or ears stopped up by iPods, and thus rendering visible the extent to which they participate according to the conventions of obligation and passive consumption (brought about by the frequent anxiety of FOMO: “fear of missing out”), the majority of students sought to apologize for their retreat to their previous habits, generally citing an appeal to nature that excused behavior. In this way, students sought to return to the invisibility with respect to how the social networks altered their social relations and daily habits, many making use of the naturalizing claim that it was “embedded” in their lives as though an entanglement, and thus an acceptable naturalization. This election to return to the Platonic cave also signaled a willingness to embrace self-disempowerment if empowerment and responsibility were in any way opposed to habitual entertainment.

In one telling fragment, a diarist wrote: “For me, the digital detox was easy on the weekend because we went up to my parents’ cottage and we did prehistoric things.” We note here the very disappearance of history itself, that any event that occurred before the rise of information and communications technologies (ICTs) is prehistory, and that we now live in the expanded, immanent, and infinite present. Another student mused with perplexity, “what did people do before Facebook?” Although a majority of students came to terms with what they perceived as their overreliance and dependence on their digital devices through which they mediated their digital selves, a large portion of students veered close to pride in stating their helplessness, lack of autonomy and agency with respect to their digital habits. Moreover, during the actual detox exercise, several students found waiting in lines or socializing in person “inconvenient” and “awkward” without having recourse to their mobile devices.

The anonymous feedback provided by the class via the course evaluations represented a large sample of students who found the exercise “worthwhile” and “revealing,” even if the “relapse” rate was very high, and many statements were made that it was not an experience they would wish to repeat in the future. Rhetorically, the exercise was characterized using a variety of journey, trauma, and rite of passage metaphors to mitigate the privative nature of the exercise itself. Only one student indicated the rhetorically loaded intention of the exercise itself, questioning the very assumption of calling it a “digital detox” on account that it assumes in advance that excessive use of digital technology was aligned with that of toxicity, and thus immediately taking on the connotation of a pejorative. There was some very minor resentment of the exercise expressed by a few students who declared it “useless,” “not fun,” and found reading their classmates’ diaries an onerous exercise. Although

there were numerous examples of students who stated that they would now question their use of the technologies in the register of personal habits, none made any larger pronouncements on the aspects of command and control associated with online social networking, nor the political economy of such websites. Nearly half of the class defended that, in a way that returns to the naturalization of certain habits associated with the technological use, their use was justified because the ubiquity of these devices and sites were a necessity in "today's modern world." What is curious about such statements would be that the same students who made them rejected the validity of technological determinism, declaring that their autonomy dictated that they had choice in the use of the technologies, and that it was simply instrumentalism. Although this does not present a significant contradiction, the invocation of a term such as "necessity" is illustrative of the perception the class has of their participation in online environments.

A classroom may be considered a capsular environment in at least two senses where students are "seated travelers," or, in the words of Lieven de Cauter (n.d.), "the greater the increase in physical and informational speed, the greater the human need for capsules. Let's call this the first law of capsularization." (79) Although it is not the literal speed associated with transit machines where Lewis Mumford tells us the compensation for the obfuscation of detail in the landscape is to insert objects in that landscape that lean toward gigantism so that we can see it, there is an abstract speed, a haste or time criticality that is mapped upon the human subject in terms of various biases and perceptions. Stimuli need to increase in order to capture the attention of a class raised in the new regime of speeds: less so of an informational nature, but on communication, technological feedback where the human subject feels she/he cannot "keep up" with the digital social environment no matter how frivolous, mundane, or redundant the content of those communications. The capsularization of a class who have a "need for speed" renders what they perceive on a different scale, thus increased speed comes at the cost of rendering details invisible, and so it takes ever more stimuli of gigantist or monumentalist or theatric proportions to distinguish what one teaches as being worthy of notice in the constant blur of a "speed-intensive" perception.¹³ The second sense of capsularization is the classroom itself which is not an isolated space or walled garden: It exists in an institutional network. The students themselves face the particular pressures of increasing tuition and the constant barrage of questions as to what type of employment will fit their chosen discipline upon graduation. If students cannot "see" what the instructor "sees," it is on account of perspectival shift: The student's perception of the classroom differs widely from that of the instructor, as does the student's perception of the concepts and content being offered. As instrumental and neoliberal logic continues to reshape the traditional university context, so, too have more students approached the

¹³ Our megatechic society presents its result as a "serious deficiency of life, directly stemming from unusable and unendurable abundance. But the scarcity remains: admittedly not of machine-fabricated material goods or of mechanical services, but of anything that suggests the possibility of a richer personal development based upon other values than productivity, speed, power, prestige, pecuniary profit" (Mumford 1970, p. 337). See also Paul Virilio, *Stop-Eject*.

classroom and the course in terms of utilitarian strategic “learning”: a kind of “level grinding” to acquire a certain numerical grade for performance as the primary goal of the course where deep or lifelong learning is a distant secondary consideration, if it is a consideration at all.

This capsularization is akin to a nesting doll, for there is also the broader encapsulation that arises due to the “ordered inside” of the networked society. As Manuel Castells reminds us, the new global polarity is no longer aligned according to the ideological extremes of east and west, nor entirely on the axis of the north–south, but on those who are connected and those who are outside of the networked society in the so-called digital divide. Despite best instructional intentions, there is still a large component of students who simply assume that “everyone has/is on Facebook,” thus concealing from view or consideration due to Western bias that there is a large number of the global population who do not have the infrastructure or hardware means to be connected. Nor do these assumptions render visible the anglocentric bias of the Internet as a whole. In this sense, the capsule of the networked society resembles an opaque bubble whereupon, in Debordian terms, the “real” is painted on its inside as it mirrors in distorted fashion a “Western” world rather than function as a window on a world that may differ from the “ordered inside.”

When the images themselves take on an autonomous life of their own, these also function as the prism by which many understand the context of those images through an inversion of the real. In this way, the context of our current raft of images magically produces a new serial chain of signs that take the place of actual historical context. It could be said that the images have been replaced by the profusion of digital signs, of which our website favicons and thumbnail Facebook profile pictures attest to a process of icon drift, bundled in newly devised ways to visualize vast amounts of data. As “netizens”, we are subject to the digital forces of image profusion and image transfusion. That is, the architecture of the Web functions as a surrogate, collective, and partially amorphous superego that channels signs and images that function as common virtual currency, while users are readily engaging in embedding their egos like so many videos within these structures to facilitate the transaction of images at absolute speeds (which, as Virilio notes, fosters the conditions of a polar inertia).

There are instances of the invisible beyond the primarily social and cultural sphere. For instance, the functions of a computer or website are governed by “invisible” code and algorithms. In physics, there are “black box” functions that cannot be derived from ordinary or partial differential equations (or, in terms of quantum physics, Einstein’s problem of “spooky action at a distance”). In the metaphysical domain, Gilles Deleuze’s characterization of the virtual as completely determined, as it unfolds through actualization, does not reveal to us the infinite potentiality that is embedded in the immanence of the virtual. In semiotics, it is not always possible (and some might argue more strongly that it is fundamentally impossible) to stage a return to an original sign in a signifier chain no matter how we choose to employ historiographies, etymologies, cultural studies, or any form of disciplinary reverse engineering.

Attempts at excorporation (a term introduced by John Fiske) of standard mainstream commodification generally become titrated into the capitalist matrix, thus constructing a further capsularization. This is a standard formula where, for example, the Haight-Ashbury hippies were gradually co-opted by the mechanisms of capital to draw from the profundity and diversity of their aims, a simplified and superficial image that could be sold back to the public. In contemporary terms, depictions of “trailer park” people (or “chavs” in the UK) in reality TV programming, or in the marketing of “distressed” jeans and the like, actually render invisible the class divisions that exist insofar as designer clothing that resembles the same attire as the working poor being worn by the middle class as a fashion statement obscures the visibility of the actual working poor who, by their own economic restrictions, have no option to dress “up” or “down.”¹⁴ There is, in this trajectory from excorporation to incorporation, an echo of “orientalizing” where some other is rendered a flattened image, generally for the purposes of marketing the fashionable as decanted in economic terms, a reduction of the other’s subjectivity to the regimes of clothing and cuisine.

Another aspect of “invisibility” is generated by means of selective exposure. Although new studies dispute the selective exposure bias as too strong (Messing and Westwood 2012)¹⁵ engineered biases are still present that inform the migratory behavior of the “netizens” with respect to what appears to each user as a function of an algorithm-shaping mechanism which will only display content from a hyper-personalized perspective, and in what the users choose to click on. In addition, what appears “below the fold” on various social networking sites in terms of status updates may not elicit the attention of the user. In a straw poll I conducted in one class, an overwhelming majority of students reported that they viewed themselves as “highly informed,” and that online social networks were the instrument of choice by which they gained information. When asked the follow-up question of how many students visited news sites for their information on national or international events, only one student agreed with the statement. In the discussion that followed, a few students admitted that they obtained their news via Twitter headlines without clicking on the link to go beyond said headline. A student asked whether or not celebrity food blogs “counted” as news, and yet another student asked, “where do we find the news?”: a statement that beggars belief given the assumptions of the “digital native” and the

¹⁴ We might also invoke here the invisibility of the new “fad superfood” quinoa. A centuries-old staple of indigenous Brazilian tribes, the swell of popular interest in the food among Western countries has placed an almost unbearable burden upon the supply available, thus driving the price of quinoa beyond what is affordable by the indigenous population.

¹⁵ The recent Stanford study by Messing and Westwood (2012) tested this and found that social media results in political heterogeneity in selection criteria. Their study found that selection criteria is driven less by preexisting ideological stance than it is by social endorsement cues such as “650 people recommend story x.” In a way, this is encouraging news since it may mean that social media users are more prone to diversifying where they get their news content, and thus are able to be exposed to different points of view. This would seem to dismantle the notion of the Internet only reinforcing ideological silos. However, inasmuch as the study indicates that partisan bias may be overstated in our actual selection behavior online, selecting and endorsing a source should not be conflated as being identical.

ease by which information can be obtained freely. The selective exposure aspect can be massaged in this context to refer not to simply selecting news items according to individual ideological bias, but in terms of entertainment.

59.6 Semiotic Invisibles

Semiotics, as opposed to semantics, is not concerned with the meaning of signs, but how meaning is constructed. If semiotics is charged with the transmission of information in a sign chain, we might ask what is omitted in this process, if it is intentional (i.e., rhetorically “leavened” or deliberately reformulated with exclusions) or unintentional (instances of the noisy channel that may problematize the relationship of fidelity between signifier and signified).

In *A Thousand Plateaus*, Gilles Deleuze and Felix Guattari take issue with the semiotic and linguistic constructs by which certain assumptions are made in the understanding of sign relations. Their main target in what can be considered nearly polemical, is Roman Jakobson’s functionalist semiotics (inspired, in part, by cybernetics). “Information is only a strict minimum necessary for the emission, transmission, and observation of orders as commands.” (Deleuze and Guattari 1987, p. 76). This definition is opposed to the way in which Deleuze and Guattari understand language as a transmission of words that are order-words, the giving of orders to life, of a circuit of saying to doing: “It is in this sense that language is the transmission of the word as order-word, not the communication of a sign as information” (Deleuze and Guattari 1987, p. 77). The order-words are statements that “say” what they perform, such as questions and promises. There is a relation of redundancy, say Deleuze and Guattari, of act and statement. They conclude with the assertion that language “is neither informational nor communicational. It is not the communication of information but something quite different: the transmission of order-words” (Deleuze and Guattari 1987, p. 79). This, so far, agrees with Shannon–Weaver information insofar as information has nothing to do with the semantics of a message, and thus the relationship to “language” is only by relation to a shared “alphabet” which need not have any linguistic nature at all (such as binary digits); just so long as there is a common alphabetic stock between sender and receiver, can there be any measure of fidelity between the sender’s message and its reception on the other end of the communication circuit. This fidelity is measured according to two identities, their difference calculated. This will not accord with Deleuze’s notion of difference since it is labors in the negative; i.e., it makes difference subordinate to two identities by means of resemblance or analogy. In Deleuzian parlance, meaning (derived from interpretation and always the scene of multiplicity inasmuch as the signal itself is just one in a possibly divergent series) flashes across by means of signals, a flash that is like signs. This use of qualifying simile requires emphasis since it is not the case that all signals in a communication circuit between object and cognitive reception are structurally determined as a semiotic relationship. These “quasi-signs” become contextually bound as knowledge regimes when they become ossified or frozen in

thought, generally institutionalized in disciplinary fields such as the order-words of language where learning becomes synonymous with the process of memorization and thus re-presentation.

It would appear that Deleuze and Guattari (1987) have constructed their own semiotic plane upon which signs can “flash,” but theirs is a tight circuit of signs without reference to the mimetic plane, which they are committed to rejecting on account of its appeal to the principles of identity, representation, and resemblance. For Deleuze, the underlying Platonic conception that seems to adhere to structuralist semiotics renders invisible the signs in their affirmative difference. Bringing this discussion full circle to our initial premise of the invisible in the context of pedagogy, how we communicate the signs of the invisible to the class does not guarantee successful “decoding” despite any array of transmission methods of a heuristic nature (be those illustrative or analogical). When we transmit the signs of the invisible, taking into account that the instructional parameters does tend toward constructing the “order-words” to be followed within the logonomic conditions of the classroom, we attempt to “cozen” (in Locke’s terms) the class into willful exploration of the signs that go unnoticed. More than that, it is also about moving steadily away from the assumptions of conventionality that the class has been accustomed to, just as in human–computer interaction the indexicality of certain digital signs (like the “home” or “left=back on browser” icons are actually on the symbolic register, but which carry certain assumptions about property and the Western bias of reading left to right, and that going “back” or “left” on a browser does not literally mean to take a step to the left) cannot go unquestioned. In any system of capsularization, it is vital to explore the relations within the capsule, just as it is to comprehend that it is but one of many capsular environments that operate under different sign regimes. From the pragmatic standpoint, it is temporally implausible to provide the full detail that may be required in any of the tenuous invisible strands of sign relations within the context of a single—or even multiple—courses, since that would court the problem indicated by Jorge Luis Borges in *The Exactitude of Science* where the map’s detail was so precise that by necessity the map had to be as large as the territory it referred to (a species of what is known as “metaphysical realism”).

59.7 “That’s the Look”: Conclusions (Ouellette)

As much as the previously cited semiotic concepts might have led to a better understanding of “invisibility” as an area of inquiry, the processes outlined above and within the School and Society course prioritize deployments based on identity as opposed to identity formation itself. Thus, future cohorts might equally benefit from an investigation and a demonstration of the concept of “interpellation,” and how it appears as a cognitive and affective response to the contingent stimuli of authority and power. O’Brien and Szeman (2010) explain it to their first- and second-year audience, as the process by which individuals, “through a mix of individual social and psychological imperatives, identify with social roles offered them” (p. 188). By

way of a gloss, they add that interpellation reflects “the degree to which the individual recognizes and identifies with the roles she or he is assigned by the dominant culture” (p. 362). Understood another way, interpellation reveals the ways in which individuals fit themselves and others positions that reflect the naturalized codes of the dominant discourses. In terms of its semiotic grounding, Chandler (2002) begins with French anthropologist Louis Althusser’s original description of the process as a “spontaneous identification” to an authority figure’s call (p. 181). Within the classroom setting, interpellation can be observed when the group recognizes the instructor’s call to attention and responds by adopting the familiar instructor–student roles. These roles are thoroughly naturalized, especially among those who want to be educators. Perhaps the best example occurs when a group is writing an exam, and more specifically, during the occasional shared gaze of an invigilator and a student. Students’ tendency to avert the gaze is based on the assumption and the conclusion that the invigilator is demonstrating suspicion. As much as each of the processes outlined seems to be a critical commonplace, they are invisible, as it were, as constitutive components in the “invisibility” studies the contributed to and comprised the School and Society course.

Indeed, the very first meeting of cohort and instructor was revelatory in terms of what was visible and invisible in the course and for the cohort, especially in terms of the unseen purchase and properties of the interpellation process. Moreover, this interaction reveals the potential of “invisibility” as a means of enumerating the effects of the practices through which dominant ideologies proliferate while underscoring the importance of grounding in the underlying processes lest they, too, become invisible. As part of the “meet and greet,” the instructor’s introduction of the thematic emphasis for the course included an attempt to highlight sources of “invisibility” in cohort members’ encounters with structural, systemic, and historical imbalances of power. One cohort member’s story was based on an incident in which he was summarily (and wrongly, in his estimation) accused of racism by a high-school student during a teaching practicum. The interpellation of the cohort occurred almost immediately, as Althusser might have predicted. They identified with the cohort member on the basis that they could conceivably be challenged similarly, both by an instructor and by a prospective student. However, the moment was lost. The interrogation of the signs—if not the cohort—could have been on at least four levels. First, there was the interpellation of the individual cohort member, which leads to the second level, that of the cohort as a whole. Of course, this leads to the relationship between instructor and cohort. While the cohort’s behavior through the semester was indicative of these three, all of these elide a fourth and subsequent levels of analyses. This is significant because the experience of the high-school student and his reaction to the deployment of institutionalized power should return the discussion to the role of educators in the circulation and the reproduction of institutionalized regimes.

Tellingly, this remained invisible while cohort members instead placed themselves as the subject of the discourse. Thus, the interaction could have been an opportunity to show that the normative interpellation of the subject renders institutional and systemic biases as “just the way things are”; hence, the class values become invisible. In this regard, the subsequent exercise, in which cohort members

were asked to identify with series of images reflecting the qualities of educators—i.e., nurturing, learning, identity, community, etc.—stands as another exercise that exists on a semiotic plane and which offers entry points for revealing, recognizing, and reinforcing the interpellation process through the cognitive and affective responses of the cohort. Had any of the key concepts—exnomination, interpellation, discourse, naturalization—been introduced and applied, I feel very strongly that the negative responses that marked the subsequent disposition of the cohort toward the School and Society class could have been avoided. Moreover, the discourse could have opened a shared dialogue among interested parties. So, as much as educators strive to map emerging concerns and areas for increased attention, the lesson of the School and Society course and its content, especially for a cohort that purportedly should be predisposed to the same outcomes, indicates that the first principles of semiotic analyses still have incredible value. Indeed, the contrary disposition of the cohort could not be understood without them, further underscoring the value of the approaches entailed.

59.8 Out of the Sign Regime and into the Borderlands (Faucher)

If institutional boundaries intersect, or play a role in building, the signification regimes that selectively omit what lies outside in that exilic frontier where the “invisible” reigns; I have found the only way to bring matters of (in)visibility to the fore has been through facilitating a kind of intellectual travel to trace the confines of the capsules, the bump up against the walls, and checkpoints of where dialogue is wanting. In my own reflective statements above, a parallel purpose to introducing terms and concepts in the domain of online social networking has been to indicate where the limitations are inscribed or taken as natural limits. Instead of siding with the technoptimist viewpoint of infinite potentiality afforded by the digital instruments, it is essential that it be maintained that (a) issues of gender, geo-spatiality, ethnicity, linguistics, and class division be reiterated as part of the ongoing issues with respect to the digital divide, and; (b) that the digital spaces that are so casually inhabited are indeed heavily pre-inscribed by a largely neoliberal logic, that we are not in a sandbox, but that this virtual apeiron is governed by rule-based principles, an Anaximander lurking in every code bundle. Ultimately, the question comes down to what tense roles are being played out on the plane of signification and big data. It is our full “social” integration within said networks that effaces or renders invisible the features of social activity that relies almost exclusively on mutualist support networks, ego validation, self-promotion, and even exclusion. One may question if the supporting aspects of data shape social activity in unseen ways, perhaps quietly nudging social activity into preset channels and thus setting up an array of feedback expectations as emblematic of the digital data environments this social activity takes place. In an environment where micro-temporality reigns, reflection is supplanted by the instant response, and historical sense is sacrificed to the infinite

present moment in which the bitstream traffics and represents (although what is hidden from view is the meticulous data archiving of all public documentation by various entities such as the state and corporation). In this way, we are presented with a kind of pink noise machine where no event is correlated with any other, leaving only particulate traces of events in the microbursts contained in a sprawling digital memory. One may extend here by analogy the affliction of Borges' Funes the Memorious, who could recall every single detail of every single thing, but could not perform the simple generalizing function of conceptuality or constructing simplified class sets. Funes could not correlate two dogs as belonging to the class of "dogs," and so would have to build separate descriptions that would define them. Conceptualizing at that level to create meaningful indexical signs is the province of both the command prompts of the web and the sift-and-sort mechanisms where we cluster on the fly (to draw from Michael Weinberger), hash-tagging our findings and musings under an unwieldy proliferation of sub-sub-sub-categories.

But if these sign regimes exist as order-words that form the very algorithms and prompting mechanisms of the social web where we are urged to "like" and to "reply," what do said sign regimes as interwoven in the icons of human-computer interaction obscure from view? Can we, à la Guattari, aim for an a-semiotic transport out of these regimes, to appropriate new sign relations that are not governed by the digi-universalis? If I didn't believe that there was no possible way to circumvent the data-based divide and rule strategies, or any way of displacing the despotic sign regimes of capsular civilization, there would be no point to teaching the courses that I do beyond the bland utilitarian need to gain compensation for work. Even if so many of today's students seem to express antipathy to history, or perhaps have no solid understanding of the past, at the very least I can install something in their personal history via their memory and experience, for what the digital detox renders visible is the very real possibility that, in their lifetimes, they may have to contend with life without their online networks if and when the technologies that supply this perceivably crucial need can no longer be produced on account of the depletion of oil and rare earth minerals. Only then, perhaps, will they fully understand what it is to be in the borderlands of the invisible, for they may very well become among those in the blacked-out zones of the disconnected whereby they will have to conjure up or resurrect older forms of social connectivity.

59.9 A Bifocal Conclusion

From the left and the right, the near and the far, we have performed a twinning of connotations with respect to invisibility avant la lettre of a full semiotics of invisibility. In making invisibility central to our investigation through critical pedagogical practice, we could not do so without taking into consideration the number of blind spots (and, in far too much literature on critical pedagogy, there may be simply lip service to reflective practice rather than actual reflection taking place, its conspicuous absence a form of allowing what we do to remain invisible to us

as educators). Ouellette offers us a conclusion that sets the "ought" of introducing terms such as exnomination to avoid what he calls the "subsequent disposition of the cohort toward the School and Society class" and in no way attenuates the field of his vision in his appeal to returning to semiotic "first principles" as the way to do it. Faucher suggests something similar by way of stating that the mission is to approach the very apparatus of techniques and the assumptions thereof with a mix of history and possibly a-signifying rupture to better critically assess the techniques themselves. It is not a return to nostalgic naturalism as such, nor even an appeal to Ludditism, but an effort to lift constraints imposed by the communication technologies to reveal the new ghost in the machine: the human subject. It is only through some form of voluntary exile where students can become nomadic that they may better appreciate the "structure" those inside may be blind to, adopt with complicity, and inherit without question. The semiotics of digital communications may in itself become part of the critical toolkit in achieving this.

No one method will be sufficient, and certainly no cluster of methods will function smoothly over all particular cases forever without significant modification. There will be new invisibles tomorrow, the kind where we, as educators, might not have already anticipated. These new invisibles may not follow the more standard signifying regimes of gender, race, and class, and so may involve attempting to explain the visual and linguistic "spooky action at a distance" by reverse engineering the present with one or many semiotic tools to uncover the hidden signifying chains that produce the invisibility, that uncover the hidden conventions behind the symbol, or that unpack a simply "given" indexical or iconic sign. We ask if such a semiotic practice is even possible without necessarily assuming that it is practicable. Yet, emerging out of confluence of theoretical sources and concepts both likely and unlikely, we can attest that there is at least the possibility for some groundwork in this area.

As a final note on the invisible, we might be reminded of Martin Heidegger's appreciation of Van Gogh's painting of the peasant shoes, and what authenticity means in that context. Heidegger tells us that the peasant shoes are only truly authentic in both name and function when the peasant wears them and does not recognize them as objects of art. At the moment the peasant may realize that they are worthy of aesthetic objectification, the authenticity of those shoes changes register and no longer exist in the authenticity of lived use. We might wonder if such a lesson applies to what it is that we do from an instructional perspective. When students occupy the "walled garden" of the educational institution, is there a sense of the inauthentic, that the concepts that they learn and discover are simply chained to the institution itself, and that they do not translate seamlessly to the "outside" of the lived practical realities. We have only to note the exceptions some students take for themselves, possibly justifying that their happy consumption of gendered media does not contradict what they learn about gender representations in media. They may learn and acknowledge in the institutional context that the big corporate players engage in communication strategies that make use of psychological manipulation that borders on propaganda, and they may revile it while in the "walled garden," but in practice, once they graduate, are these the same students, armed with the critical concepts

of understanding who are excited to have been employed by these same corporate entities as promotional representatives and communications staff? In this case, here we have willful blindness brought about through the tension of what is considered the authentic and inauthentic. It may be the case that what we do as instructors is to objectify certain sociological, semiological, and philosophical ideas qua the institutional context, and it renders these parts of the inauthentic. This, in our eyes, is central to the current debate about the practical value of university education, and that what students learn as they “commit sociology” is considered on the level of being inauthentic to “real life,” even if that real life is in itself a kind of spectacle engineered and supported by a narrow conception of existence according to economic principles. We might say that what is made invisible is the authenticity of the concepts themselves as they become appropriated or displaced by the inauthenticity of the ideological frame of the allegedly practical everydayness that resides outside the “walled garden” of the institution. In this way, postsecondary education seems to analogously conform to one of Newton’s famous and reckless experiments where he stared at the sun for as long as he possibly could, temporarily blinding himself so that he had to remain in a dark room for 3 days before he could see normally again. In this context, one wonders if the blinding light that reveals all the inequities and insoluble problems associated with the marginalized, class division, issues of justice, and the raft of assumptions built into much of media and technology are just “too much,” and so at the end of x number of years of schooling, it is time to retreat back into the dark, and readjust one’s eyes to the shadows on the wall of Plato’s Cave. But this fanciful rendering only tells part of the story and for us to embrace this turn to the allegory leaves us blind as well to a simplified single way of telling this story. Words such as “authentic” are already loaded terms, equally liable in promoting other kinds of invisibility depending on who or what wields them. Without addressing who sets the criteria for what is considered authentic, we forget one of Nietzsche’s wisdoms with respect to genealogical critique: to question the origin of a value, and the value of that origin. It is in this way that a semiotics of invisibility can help us discover that penumbral genealogy.

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Marc A. Ouellette is the managing editor of *Reconstruction: Studies in Contemporary Culture*. With Jason C. Thompson he edited *The Game Culture Reader*. They are currently finishing a book on post-9/11 video games. Ouellette's recent work appears in *Learning the Virtual Life*, in *Technical Communication and Computer Games* and in the forthcoming collection, *The Cake is a Lie* (with Michelle E. Ouellette). Ouellette is an active member of the Learning Games Initiative and sits on the editorial advisory board of *Dialogue: The Interdisciplinary Journal of Popular Culture and Pedagogy*.

Kane X. Faucher is an assistant professor at Western University's Faculty of Information and Media Studies. He is the author of several articles on Deleuze, Borges, social networking aggression, and phytosemiotics. He is the author of a variety of acclaimed novels, and is currently completing a manuscript on a Deleuzian approach to information theory in addition to coediting a volume of essays on Deleuze and Guattari on capitalism.

Chapter 60

A Patriot is Respectful: (Re-)Examining the Architecture of Ideology in Educational Contexts

Rachel J. Pinnow

60.1 Introduction

In recent years, there has been a proliferation of research examining the role of schooling in ideological inculcation, and what has come to be known as the “culture wars” in schools (Smagorinsky and Taxel 2005). Inquiry into forms of ideological inculcation in schools has focused on policies, curriculum, and spoken and written discourse contributing vital insight to our understanding of this phenomenon (Apple and Christian-Smith 1991; Apple 2004; Shor 1992, 1996; Smagorinsky and Taxel 2005). However, the role of visual communication in the architecture of ideology in schools has not been adequately addressed although it appears to be a persistent source of ideological inculcation (Fischman 2001; Harklau and Pinnow 2005; Pinnow and Harklau 2004). In order to address this gap in the research literature, this study examines the role of visual communication in the architecture of ideology in a US middle school.

In an effort to address the scope of visual communication deployed in the school, this study draws on the compatible constructs of ethnography and social semiotics in what Vannini (2007) has termed *sociosemiotic ethnography*. Sociosemiotic ethnography is a form of “reflexive, critical, analytical, interpretive, and constructionist ethnography that focuses on the study of how social agents use semiotic resources in practice” (Vannini 2007, p. 136). Sociosemiotic ethnography examines how various semiotic resources, such as language, image, color, and space are used and regulated by people “in the context of specific social practices and institutions and in different ways and to different degrees” (Van Leeuwen 2005, p. xi). Sociosemiotic ethnography is informed by social semiotic theory, which attributes meaning to power rather than attributing power to meaning in the tradition of structural semiotics (Halliday 1978; Halliday and Hasan 1989; Hodge and Kress 1988).

R. J. Pinnow (✉)
University of Missouri, Columbia, USA
e-mail: pinnowr@missouri.edu

Social semiotics is also concerned with political understandings located within meaning making, positing that “meaning emerges out of the concerted intercourse of humans, each with differing motives, goals, and outlooks” (Vannini 2007, p. 115). Thus, social semiotics takes as its starting place the notion that *ideology* undergirds and informs the manner in which semiotic resources are deployed in any given context, thereby shaping the context to be a manifestation of particular beliefs, values, and norms. Ideology, in this sense, does not refer necessarily to propaganda, but rather to the way that ideologies, as systems of belief, are made pervasive through mundane, persistent reproduction in everyday social life. Social semiotics, therefore, takes into account that semiotic resources are deployed in order to circulate a particular point of view, persuade, and define the architecture of power relations.

Research in the field of social semiotics has flourished in recent years, examining the integration of semiotic resources in human communication, including visual images, color, three-dimensional space, symbols, icons, and sound (Iedema 2003; Koller 2008; Kress 2009; Kress and Van Leeuwen 2002, 2006; Stenglin 2009; Van Leeuwen and Jewitt 2001). While research in social semiotics has examined the use of multiple semiotic resources for purposes of teaching and learning in schools (Bezemer 2008; Kress 2005; Kress et al. 2001; Pinnow 2011, 2013; Unsworth 2007), virtually no research has examined how semiotic resources are employed visually to shape representations, orient the viewer, and organize communication of ideologies in institutions such as schools.

In this vein, sociosemiotic ethnography can provide vital ethnographic information regarding institutional ideologies in practice including “how social agents utilize ideologies as practical resources for the achievement of everyday life goals” (Vannini 2007, p. 137). By expanding the scope of analysis to include a variety of semiotic resources employed in institutions, it is possible to examine the “hidden premises” (Van Leeuwen 2005) that can contribute significantly to shaping the context for participants. This is an important contribution to ethnographic research in institutions as it provides insight to how a variety of semiotic resources can be employed as powerful purveyors of ideology.

However, social semiotic research is an interdisciplinary endeavor. While sociosemiotic ethnography provides tools for data collection and analysis, an interpretive lens to explain analysis is necessary. For an interpretive lens, I turn to research in visual culture that draws upon relevant theories of ideological and cultural reproduction.

60.2 Visual Culture: Interpellation, Ideological Inculcation, and Surveillance

Drawing upon ideological concepts by Althusser (1999), research in visual culture posits that ideology interpellates, or “hails,” us as viewers, and by doing so attempts to transform us into subjects of its message (Evans and Hall 1999;

Mirzoeff 1998). Thus, visual communication is closely identified with the transmission of ideologies as images hail us as viewers, and the ways and means by which they do so “designate the kind of viewer they intend us to be” (Sturken and Cartwright 2009, p. 359). This act of interpellation is an important component of ideological inculcation in institutions such as schools due in part to the role of governmentality in schooling, including how hierarchies of power are reproduced. Foucault described governmentality as the “encounter between the technologies of domination of others and those of the self” (Foucault 2003, p. 147). In schools, these encounters are often shaped through the orchestration of semiotic resources (e.g., color, images, language, architecture, space) that afford possibilities of both domination and resistance.

In institutions, the encounters that constitute governmentality are also associated with surveillance. Foucault (1995), addressing the role of governmentality and surveillance in prisons, drew on Bentham’s panopticon which consisted of a tower surrounded by cells with windows arranged so that guards in the tower could see prisoners at all times, yet prisoners could not always see the guards. This configuration made certain that prisoners never knew when they were under observation and due to their chronic visibility, disciplined themselves, and were, therefore, reproduced as “docile bodies” or those who self-regulate without need of external physical force (Foucault 1995). Foucault’s analysis also makes it possible to locate mechanisms of power in the concrete details of institutional practice (Foucault 1980). This is a vital point since visual communication can be deployed to establish and circulate ideologies in ways that can be more difficult for individuals to refute since there often appears to be no human agent attached to this form of communication in institutions. This is not to suggest that individuals do not exert agency in the face of such practices. Rather, these practices need to be taken into account since this form of ideological inculcation is different than what one might encounter on the street, in a museum, or in a social context where there are greater possibilities for personal deferment.

However, much of the research examining surveillance and panopticism in schools has focused on the intersection of governmentality and technology, such as the use of law enforcement in schools, metal detectors, and surveillance cameras (Kupchik and Bracy 2010; Lewis 2003). While this has provided vital insight to the role of surveillance in schools, the role of visual communication as a form of surveillance has yet to be addressed. By drawing upon Althusser’s and Foucault’s perspectives and applying them to visual communication in schools, it is possible to address the intersection of ideological inculcation and surveillance that exists in these institutions. Sociosemiotic ethnography and visual culture provide compatible means of analyzing and interpreting the multiple semiotic resources deployed in institutional visual communication. This is the key to understanding how an institutional culture is constructed, and how encounters with institutional ideology are shaped for participants.

60.3 Method

The data set presented in this chapter was part of a larger, year-long sociosemiotic ethnographic study that examined the online second language (L2) writing of English language learners (ELLs) from two middle schools in the southeastern USA. Data collection and analysis included data of the material environment of the schools (e.g., digital video and images of school visual communication such as banners, signs and posters, physical artifacts, and archival data) in order to ethnographically document the context as a potential agent of influence in students' L2 writing.¹

This chapter focuses on the data collected from one of the middle schools in the study, Myers Middle School (all names are pseudonyms), which was named the State School of Character in 2009. The data from Myers Middle School is the focus of this chapter due to its concentration on character education and to provide in-depth analysis of how multiple semiotic resources represent, orient, and organize ideology.

60.3.1 *Setting*

Myers Middle School was located in Walker Heights, a town with a population of approximately 185,000 located 55 miles from a metropolitan city in the southeastern USA. Walker Heights' economic foundation consisted of agriculture, poultry, and textile industries that had prospered due to the influx of immigrant labor from Mexico beginning in the early 1990s. The physical terrain of Walker Heights reflected its shift from a once agriculturally based community to a rural-industrial community, with rural pasturelands now interrupted by large industrial facilities that reconfigured both the landscape and work force. Latino families had also contributed significantly to reshaping Walker Heights into a multicultural, multilingual township, which was reflected in the main thoroughfare of the city where one could see numerous shops, restaurants, and businesses owned and operated by Spanish-speaking peoples from all walks of life.

Myers Middle School had been constructed in 1993, shortly after the arrival of many of the Latino families that continued to live and work in Walker Heights over a decade later. Myers Middle School, with 900 students, reflected the multicultural population of Walker Heights with demographics depicting a student population made up of 52% White, 39% Latino/Hispanic, 5% Black, 2% Asian, and 2% listed as "Other."

¹ I credit Dr. Linda Harklau for introducing the idea of visual communication in schools to me and allowing me to be a part of a project she led on the topic in 2003–2004.

60.3.2 Data Collection

Ethnographic methods (DeWalt and DeWalt 2002; Patton 2002) were used to collect data which consisted of digital still images of the school material environment, digital video recordings of classroom interactions, participant observation, field notes, interviews, documents, and archival data. My role during the study was that of a participant observer “seeking out opportunities to spend time with and carry out activities with members of [the] community” (DeWalt and DeWalt 2002, p. 4) in order to gain an emic perspective of my participants and the research site. Data were collected twice weekly for 1 year. Digital video and still images of the school’s visual communication were also collected twice weekly throughout the year-long study in order to record changes in visual communication over time.

Digital video and still images were analyzed using Transana. Transana is a software designed for qualitative analysis of video and audio data that allows the researcher to transcribe, identify analytical points of interest, assign keywords or terms to data, and create a database of collected clips along central themes. Due to these features, Transana is particularly useful for qualitative research, such as sociosemiotic ethnography. This chapter focuses on the findings related to the visual communication in the school through analysis of digital video and still images of the school material environment.

60.3.3 Data Analysis

Data were analyzed using multimodal analysis which encompasses multiple semiotic resources in analysis, such as linguistic structure, three-dimensional space, color, images, architecture, etc. (Jewitt 2009; Jewitt and Oyama 2001; Norris 2004). Van Leeuwen (2005) has posited that the semiotic choices that characterize a particular context constitute a “semiotic register” that is used to convey particular ideas, meanings, or beliefs. In the case of institutions such as schools, the ideological values of the institution are conveyed in ways that constitute a “register” that participants can then come to expect from that specific context.

In social semiotics, the “register” of visual communication can be expressed through three metafunctions (Lemke 1989): representation, orientation, and organization. *Representation* refers to the way semiotic resources are used to construct the world or “reality” (i.e., what is this about?). *Orientation* refers to the way social relations and purposes are constructed (i.e., how are social relations being enacted through this convergence of semiotic resources?), and *organization* refers to the way in which communicative acts or social practices are orchestrated as a cohesive whole (i.e., how is the “text” put together as a semiotic construct?). “Text” in social semiotics refers to any arrangement of “representational resources which realise social matters” (Kress 2003, p. 47). Therefore, in social semiotics, the term “text” does not refer only to written linguistic resources but also visual communication, music, architecture, space, design, etc.

For instance, three-dimensional spaces are often organized using orbital and serial structures in order to create interconnected spaces and experiences for viewers (Stenglin 2009). An orbital structure construes space as having a core that is “the focal point of social significance” (White 1998, p. 277 in Stenglin 2009, p. 41). This orbital structure is employed in such a way as to guide the flow of people around the focal point. On the other hand, serial structures configure the flow of visual information such that viewers encounter visual communication in a linear fashion. By examining these structures as a “text” with a specific social register, we can locate how they represent “reality,” orient the viewer to social relations, and organize semiotic resources to create a cohesive whole.

Multimodal analysis of the convergence of semiotic resources, combined with the lens of visual culture studies, affords insight regarding the architecture of the semiotic register deployed in the school. This includes analysis and interpretation of the perspective taken of the intended viewer of institutional communication, including how the viewer is being constructed ideologically. It also provides vital ethnographic information regarding institutional ideologies in practice over time including how ideologies are established, circulated, and reproduced for the achievement of institutional cultural norms.

60.4 Results

60.4.1 *Welcome to Patriot Country*

Visual culture studies take the perspective of the viewer, therefore analysis in this study began from the perspective of school participants, and their initial encounters with visual communication in the school. As with many schools in the USA, entry into the school building was tightly controlled with individuals funneled through two entrances: the *main entrance* and the *student bus entrance* to the school. The following findings section present data from each entrance.

60.4.2 *Main Entrance*

The main entrance at Myers was located directly next to the school parking lot. This entrance was where parents, teachers, staff, administrators, and students could enter the school. This entrance was significant, in that it utilized a panoptic layout that funneled individuals past video cameras and the school’s administrative offices that were enclosed by glass, allowing all who entered and exited the building to be observed each day.

In Myers, the control of entry into the school through the main entrance meant that individuals encountered an orbital flow of three-dimensional space with the school’s administrative offices as the focal point of the area. Further, inside the

Fig. 60.1 Patriots are rising stars



school, individuals encountered serial structures that conveyed other forms of ideological communication which will be discussed in a later section of this chapter. Upon entering the school through the main entrance, visual communication in the form of posters and flags were the first encounter participants had with the school's ideologies. Multimodal analysis of the poster affixed to the main entrance of the school (Fig. 60.1) demonstrates the initiation of viewers to the semiotic register of the school.

This particular poster, due to its placement in space (i.e., the main entrance), established the school's colors of red, white, and blue against a backdrop of the stars and stripes of the US national flag. These colors, and the invoking of the national flag, would be reiterated throughout the school, creating a visual "rhyme" that connected school visual communication across the school's architecture. Multimodal analysis of the linguistic structure of the poster demonstrates the perspective taken on students that represented them as "rising stars," which oriented the viewer to students as those who were on their way toward future excellence and achievement. It also represented students as "Patriots" as this was the official school mascot (Fig. 60.2).

The "Patriot" was a revolutionary war figure who had originally held a rifle in his hands. After the Columbine High School shootings in 1999, the rifle had been painted over with a US flag, although this did little to ameliorate his aggressive appearance.² From this point, in the school's visual communication, students would be referred to only as "Patriots." Since this poster was one that parents viewed when visiting the school, this representation of students was noteworthy, given the

² The school has since changed their mascot.

Fig. 60.2 School mascot**Fig. 60.3** Welcome

assumption of audience at this location of the school. However, the positive representation of students at the main entrance would prove to be in contrast to how students were represented in other visual communication further inside the school which is addressed later in this chapter.

Inside the main entrance, the establishment of the school's ideological values was accomplished through a dense cluster of banners. The visual communication present were those that one might expect to encounter in a public institution such as a greeting (Fig. 60.3), statement of the institution's mission (Fig. 60.4), and physical evidence of the success of the institution in the form of trophies and awards (Fig. 60.5).

Multimodal analysis of these banners revealed several important factors regarding the architecture of ideology in the school. First, although there was no direct address of the viewer in these signs, the location of them and the panoptic funneling of individuals through these main doors provided evidence of the assumptions regarding expectations of the viewer at this particular entrance. The viewer is constructed as one that requires evidence of the school's devotion to its mission and its promotion of student achievement. Hence, the school's public "face" was on display with signs oriented towards the establishment of the school's culture, as

Fig. 60.4 Mission statement

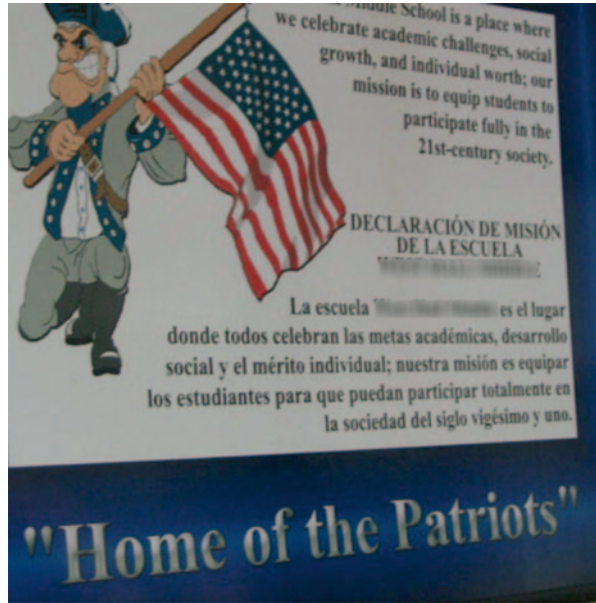


Fig. 60.5 Rigor and relevance



well as the orientation of the school towards its perceived social and educational functions (see Fig. 60.5).

Second, color was an important semiotic resource in establishing a register that viewers could come to associate and expect in the school. Color linked one sign to another, thus creating a visual “rhyme” (Van Leeuwen 2005) which allowed for cohesion among visual communication with various messages so that, although the linguistic content of the signs might be substantially different (e.g., a greeting, announcement of the school’s social function, etc.), color served to connect them and legitimize their message to the viewer as part of an official school communication.

Color also played an important role in legitimizing school communication and establishing membership by borrowing authority from the colors associated with the US flag. By consistently invoking either the US flag or the colors and stars and stripes of the US flag, the school's visual communication also served to invoke nationalistic notions of membership throughout the school.

Third, the linguistic structure of some banners (Fig. 60.6) delineated the actions (developing basic skills and providing rigorous instruction) and expected outcomes (world-class learners) of the school's approach to education and patriotism.

The semiotic register deployed at this entrance also provided evidence of the notion of audience. The school's ideological values are conveyed in this way at this entrance for a particular audience. In contrast, as one passed these banners and entered the main hallway, the intersection of the main entrance and the student bus entrance, the tenor of the banners changed (Fig. 60.7) as the assumption of audience appeared to shift. Multimodal analysis of this banner (Fig. 60.7) provided insight to how the semiotic resources of color, font size, language, space, and production value were deployed for purposes of ideological inculcation and reproduction of hierarchies of power.

First, the use of color (i.e., red, white, and blue against a backdrop of stars and stripes) connected the banner to the initial banner positioned at the main entrance of the school (see Fig. 60.1) and promoted the legitimacy of the banner's message as part of an already established semiotic register. The use of all capital letters, much like their use in online environments where font type and size can be an indicator of emotion, increases the authority of the sign in interpellation of the viewer. The term "Patriot Country" contributes to the establishment of "us" and "them" political classifications (i.e., those who are patriots and those who are not) and nationalism based on land and borders (i.e., "country"). In addition, the linguistic structure of the sentence reduces the ambiguity of the phrase (i.e., this is not a suggestion, but a statement of fact), which could be interpreted as an indicator that the school's primary concern is not only the development of students' academic and intellectual potential but also has elements of a possible threat due to the command structure and use of the adverb "always" (i.e., student minds should be on learning at all times).

In this instance, the convergence of semiotic resources was important in interpreting what the banner sought to convey to the viewer. The use of school colors, linguistic structure, and punctuation should be considered in conjunction with where the banner was placed in time and space. This banner (see Fig. 60.7) was positioned further inside the school at a juncture in the school space where students and teachers had to pass through each day to reach their classrooms. Thus, the viewer of this banner was someone expected to enter deeper into the school, and the type of ideas being conveyed had, therefore, shifted from the school's greetings and mission to what the viewer is expected to be oriented to ("minds always on learning").

To gain more insight to the way that the viewer was constructed through the location in time and space of visual communication, the juxtaposition of signs hung



Fig. 60.6 Basic skills + rigorous instruction = world-class learners

Fig. 60.7 Welcome to patriot country



in the main entrance with those hung in the student entrance, where students were dropped off and picked up by bus, is considered in the following section.

60.4.3 Student Entrance

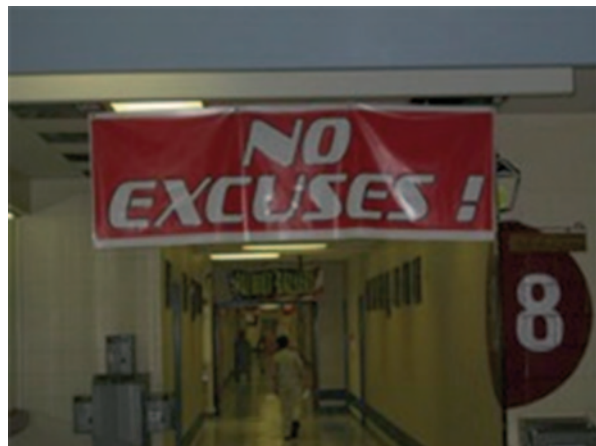
The west entrance of the school was the entrance where school busses delivered students and picked them up at the end of each day. Therefore, the banner positioned at this entrance appeared to be one addressing students rather than parents and teachers who were required to enter and exit the school through the main entrance. In the “NO EXCUSES” banner (Fig. 60.8) that greeted students each day, it was possible to see Althusser’s (1999) principle at work.

The viewer is hailed here, identified, and socially constructed, as one who *will* make excuses. The tenor of this sign towards students is substantially different than that of the “Rising Stars” (see Fig. 60.1) poster at the main entrance. For instance, the placement of the “NO EXCUSES” banner (see Fig. 60.8) is at a steep vertical angle hanging over students’ heads, indicating “symbolic power” (Jewitt and Oyama 2001, p. 135), as they entered and exited the building each day.

Hierarchies of power were also conveyed through particular semiotic modes in the sign. For instance, the use of all capitalized letters, the size of the sign, linguistic command structure, and punctuation in the form of an exclamation mark converged to deliver a message that is a nonnegotiable order from an unnamed authority. There is no overt subject in the sign but rather an implied addressee (“*You* do not give excuses”), which heightened the applicability of the sign to all viewers in a personal way. The use of the color red, which is considered especially salient in images (Jewitt and Oyama 2001) and is often used to semiotically index danger (Van Leeuwen 2005), tied the banner to the school colors which aided in legitimizing the representation of students conveyed in the banner.

Moreover, the placement of this particular banner at this point in space and time in the school, along with the banner’s linguistic statement, orients the viewer toward the “hidden premise” (Van Leeuwen 2005) of surveillance (Foucault 1995). This banner conveys to the viewer that they are being observed and construed as ones who will commit wrongdoing. Therefore, students’ first encounters with the

Fig. 60.8 No excuses



school's ideological stance toward them each day was not positive, but rather represented them as those in need of surveying, measuring, and correcting even before any wrongdoing had occurred.

In interviews with the students in the study, all of whom were Latino, when presented with this image (see Fig. 60.8: NO EXCUSES!) and asked what they thought the first time they saw this banner, one student responded, "I thought, this is not the school for me." The only Latina in the study responded "That sign does not apply to you if you are good. I am good so this sign does not apply to me." The students' responses indicated that they had noticed the banner and formed an internal response or defense against it (e.g., "that sign does not apply to me"). These students' responses also indicated that the banner was shaping their encounters with the school's ideology; its construction of them as students and its role as an institution.

In addition, analysis of the professionally produced banners employed by the school and student classwork that were displayed revealed a distinct contrast between the positioning of the professionally manufactured banners and student work. Student classwork was never hung from the highest point in the school, the ceiling, suggesting that this space was reserved for messages with more authorial power. However, the school's professionally rendered banners were systematically hung from the ceiling suggesting that *space* was one semiotic resource utilized for establishing hierarchies of power regarding who may publish ideas *where*, as well as indexing the legitimacy of a message by the space where it was placed in the school. It is notable as well that any student-created visual communication was produced from basic materials such as paper and crayons, the quality of which were in marked contrast to the professionally rendered banners and images the school administration used for their own communication. Hence, the quality of production materials aided in substantially separating the authorial power of student visual communication and that of the school's administration.

60.4.4 *The Patriot Gallery*

Continuing along the corridor of the student entrance, the viewer was met with a serial structure that presented character education traits in a linear fashion through photographic images affixed to the school walls. The Patriot Gallery (Fig. 60.9), located in the center of the school, had framed, high-quality photographs (Fig. 60.10) that depicted Myers' students engaging in academic, sports, and club activities with the associated character traits written beneath the images. All ethnic groups were represented in the photos with Latino students depicted in over 50% of the images.

In these photos, representational meaning, through narrative visual syntactic patterns (Jewitt and Oyama 2001), was used to show students demonstrating particular character traits. In social semiotics, narrative representations "relate participants in terms of 'doings' and 'happenings'" (Jewitt and Oyama 2001, p. 141). In these photos (Figs. 60.11 and 60.12), students were depicted engaging in activities that nar-

Fig. 60.9 The patriot gallery



Fig. 60.10 Patriot photos

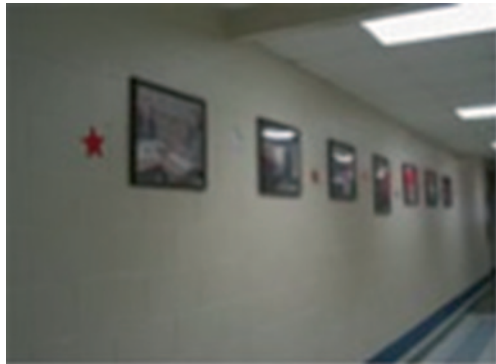


Fig. 60.11 A patriot is friendly



rated the character traits described by declarative sentences printed directly below the images. The repetition of color, language now specific to the school (i.e., patriots), and the named character traits, provided extensive possibilities for depicting

Fig. 60.12 A patriot is cooperative



students as willing members of the overarching school ideology. It also provided visual communication regarding what membership looked like in this context and possibly in the larger US context as well.

In addition, the interactive meaning, or the relation that an image can create between viewer and the world (Jewitt and Oyama 2001), suggested the attitude that students should take up from these photos. Interactive meaning can be judged by *contact*, *distance*, and *point of view*. When photos show people looking directly at the viewer, they are considered in social semiotics to “make contact” with their audience (Jewitt and Oyama 2001). By making contact with the audience, a symbolic “demand” (Jewitt and Oyama 2001) is also being made of the viewer. This demand is used to encourage the viewer to accept the character trait or belief exhibited in the image. For instance, the character trait of “friendly” was illustrated by exhibiting students who looked directly into the camera (see Fig. 60.11), thus increasing the likelihood that this physical posture will make a demand for the viewer to emulate.

In the case of the character trait “cooperative” (see Fig. 60.12), the Latina students in this photo were not looking at the camera, and, therefore, not addressing the viewer directly, but rather made an “offer” to the viewer (Jewitt and Oyama 2001). The offer here was an offer of information about what it might look like to be “cooperative.” However, both photos depicted stances indicative of the character traits that they sought in their viewers. This is a salient point because it encourages the viewers to see themselves in the photo, committing the character traits of friendliness and cooperativeness that were semiotically indexed as essential to membership in the school ecology.

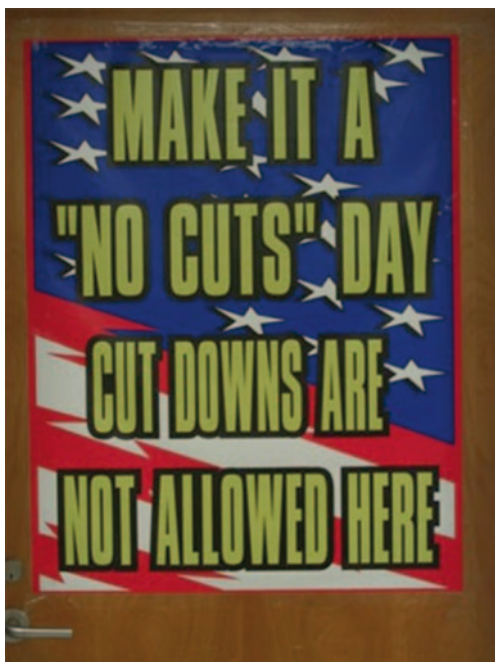
Distance and *point of view* were also significant in the analysis of these photos. Distance refers to the way that images serve to increase or decrease the perceived social distance between those in the image and the viewer. For instance, visual images where people are depicted at a distance from the viewer, such as long-range views of two people walking on a beach, rely upon the distance between the camera and the figures to obscure our ability to clearly see the people’s faces, thus making it more likely that we will view these people as strangers. In contrast, when people appear close-up in images, the viewer is more likely to view them as people that are known, or as those situated to represent something personal or immediate to the

viewer. This is not to suggest that the appearance of decreased social distance is in reality “true.” However, reducing the perceived social distance between those in the photo and the viewer is an important element in creating the intimacy needed for purposes of persuasion.

Finally, *point of view* is often used in images to depict modality, or the “truth value” or credibility statements about the world (Kress and Van Leeuwen 2001). By using photographic images of actual students in the school, these photos were in some ways making stronger truth claims than if obviously unknown students were depicted in the photos as models of desired behaviors. In addition, the size of the photos, close-up framing of the shots, and the choice of using actual students as models of these character traits served to represent things “as though they belong or should belong to ‘our group’, and that the viewer was thereby addressed as a certain kind of person” (Jewitt and Oyama 2001, p. 146).

Once past the patriot gallery, at the far end of the school building, school visual communication was sparse, with one exception (Fig. 60.13). This poster was embedded deeper within the school, and its message was in contrast to the positive image of the school promoted by the banners at the main entrance. Here, the school colors are significant, linking this banner to all other school visual communication. The linguistic structure and content of the poster provide evidence for how the viewer was shaped ideologically as one who might engage in verbal abuse or bullying. The location of the poster in time and space also contributed to the notion

Fig. 60.13 Make it a no-cuts day



that the ideas represented in this poster were not ones the school wished to advertise closer to the main entrance where parents entered the school daily.

60.5 Discussion

A sociosemiotic ethnographic approach to examining visual communication in institutions, such as schools, provides a rich source of data for analyzing and understanding the ways and means of ideological inculcation. Analyzing the way ideology is represented visually, how it orients and constructs the viewer, and how ideology is organized as a cohesive text is vital to understanding the architecture of institutional culture.

60.5.1 Representation

In Myers, representation of the school's overarching ideology constructed the world or "reality" as one that addressed both the school's role as an educational institution (see Fig. 60.5: Rigor and relevance) and its role in shaping the character of students (see Fig. 60.10: Patriot photos). However, as Smagorinsky and Taxel (2005) pointed out, this type of communication in schools does not focus on the nuances of educational philosophies, but focuses instead on quick messages that allow the school to advertise their ideological beliefs to whom they view as possible "buyers" or "clients" (i.e., parents).

The school's awareness of how the school, as an educational entity, should be represented also shaped what types of banners and posters were positioned at particular places in the school. For instance, at the main entrance, where parents entered the school, the overarching ideology displayed represented the school as focused on student achievement. Visual communication that might represent the school as a place where bullying or unwelcome behavior was an issue was placed deeper in the school (see Fig. 60.13: No cuts), as far away from the main entrance as possible. While it was possible that parents would at some point during the school year enter this part of the school space, this poster was notably positioned further away from the other visual communication that represented the school positively and that parents were exposed to on a daily basis.

Moreover, the school's representation of the world or "reality" did not necessarily draw upon students' already-existing character or cultural values. As Smagorinsky and Taxel (2005) noted, one important issue in addressing character education in schools is "whose culture" which is being conveyed in the school's ideology? Given that 40% of the student body was Latino, specifically from Mexico, there was a noticeable dearth in addressing the cultural values of a large number of the school's participants. Moreover, by constraining the power of representation to one segment of school constituents (i.e., school administration), hierarchies of power

regarding how the world or “reality” would be constructed were confined to only one small segment of the community, even as the cultural makeup of the community at large was expanding and shifting. Given that the education of children is a community endeavor, engaging the members of that community in constructing core values is vital to representing constituents in ways that matter to all shareholders.

60.5.2 *Orientation*

In this vein, examining the way social relations (orientation) were constructed in Myers revealed the specific use of space, color, image, and language for this purpose. The school administration’s anticipation and construction of audience through the placement in space of particular banners in particular places provided evidence of expected social relations as well as the shaping of those relations. For instance, the relationship constructed through the banners at the main entrance was one where the school as an educational entity must answer to shareholders regarding intent and performance. Viewers were also constructed as those who may wish to view their child as a “rising star”, one being prepared for future greatness.

However, other visual communication in the school constructed the relationship between the school and the viewer quite differently as indicated in the changing tenor of address in the banner positioned at the west entrance of the school (see Fig. 60.8: NO EXCUSES!). Here placement in space, linguistic address, font, color, and punctuation converged semiotically to deliver an ideological construction of the viewer as one in need of correction, even before any wrongdoing may have occurred. In this way, this banner also instituted the notion of surveillance and panopticism. The viewer was construed as one who was being observed and evaluated by an unnamed authority. This also construed the relationship between viewer and school as an unequal one, a hierarchy of power wherein only one party had the power to construct others in a particular way. However, unlike the guard in Bentham’s panopticon (Foucault 1995), a sign never tires and has no easily identifiable human agent. In fact, it is the authorless quality of much of the school visual communication that contributed to its power to establish and circulate ideologies and hierarchies of power. Ideological constructs were presented as facts rather than as ideas that could be debated or refuted by the viewer.

The constructions of social relations as unequal power relations were most notably achieved through use of the semiotic resource of space. Space was employed most prevalently to create hierarchies of power: *Who* may post banners or messages *where* in the school architecture, thereby demarcating the authority of particular types of communication over other types. In addition, the placement in space of various visual communication contributed to an overall tenor towards the perceived viewer. For instance, the eye-level placement and size of the “rising stars” banner (see Fig. 60.1) versus the steep vertical angle of the NO EXCUSES (see Fig. 60.8) banner as well as the Patriot Gallery photos (see Figs. 60.11 and 60.12).

60.5.3 Organization

Finally, the organization of visual communication to create a cohesive “text” was evidenced through the repetition of the red, white, and blue of the school colors. School colors, combined with the quality of production materials, organized the school’s visual communication in a way that legitimized the school’s communication and, through reiteration, instituted a specific register the viewer could come to expect in this context. Cohesion was also achieved by extending school colors to students’ bodies through the dress code, making students physically part of the “text” and its undergirding ideology.

Moreover, the organization of visual communication was further evidenced in the naming of students as “patriots.” The repetition of the term aided in creating “us” and “them” political classification that conveyed particular cultural values, expectations of the viewer, and participation in local membership. While it is true that most schools have mascots that are used to create a unified local identity, the question remains as to why was this particular mascot (i.e., a white male revolutionary war figure) given the shifting cultural context during this time period. Given that a substantial portion of the student body would be composed of Mexican transnational students during this time, it is perceivable that other mascots would have served the creation of local membership in a more inclusive manner.

60.5.4 Limitations and Future Research

Future research could benefit from exploring changes in school visual communication over time and in lieu of demographic changes in schools. One limitation of this research is that it drew on data from only one school. While data from one school allowed for depth of analysis, it is also a limitation in making any claims about how different schools in different contexts employ visual communication for various purposes. Future research in this area could benefit from visual communication taken from multiple schools across educational levels (e.g., elementary, middle, and high schools). Examining and comparing the shift in visual communication strategies across these levels could also provide further insight to how schools construct ideology and how this reflects changes in cultural understanding and stances towards multicultural norms and values.

Another limitation of this research was that only data from focal students in the study were available to provide insight into how visual communication in the school was perceived by these stakeholders. Future research could benefit from data addressing the perceptions of other stakeholders in the school ecology, such as parents and teachers, in regard to how visual communication is perceived and processed by a broader number of institutional members. For instance, it is possible that although the school perceives parents as clients for which they are responsible for satisfying, different stakeholders may have differing perspectives on what values they hold and how these values should be addressed and oriented to in the

school. This reorientation by educational institutions to the values and beliefs of all shareholders in the educational process is, therefore, an important aspect in shifting the current trajectory of ideological and cultural display in schools.

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Rachel J. Pinnow, PhD is an assistant professor of TESOL at the University of Missouri. Dr. Pinnow is the principal investigator of teaching the language of science to English language learners: A systemic functional approach and Co-PI on a study of strategies and social processes that facilitate the participation of Latino English language learners in elementary mathematics classroom communities with Dr. Kathryn Chval. Dr. Pinnow’s research focuses on the intersection of social semiotics, ethnography, and second-language learning.

Chapter 61

The Emergence of Signs in Hands-On Science

Wolff-Michael Roth

When the movements serve to recall or manifest the impressions with which they essentially have coincided, then one can properly call them natural or ordinary signs; but, as soon as the individual has been determined to remark these original functions, he understands them by an act reflected and founded upon the great law of the linkage of ideas, to exist in different manners that have in common with these movements only more or less indirect and often even purely conventional relations. (Maine de Biran 1841, p. 56, original emphasis, underline added)

61.1 Introduction

In the semiotics literature, the existence of the sign tends to be presupposed. But new signs come to life continually. How signs are born, however, is much less frequently studied by scholars interested in semiotics. That signs do not just exist around us but actually emerge or are generated in the course of communication became salient to me during a research project when a colleague and I met for an entire week to engage in intense video analysis of physics lectures for preservice elementary teachers. Despite having volunteered to teach this course and despite spending a lot of time on preparing the daily lectures, our research showed that the students had considerable difficulties understanding what the course was all about. Among others, the professor taught about a demonstration that he had shown during some preceding lecture while reviewing the differences between Aristotle and Galileo on motion. As part of his talk about having run a cart on an air track, the professor's arm moves in what appears to be along a curvilinear trajectory (Fig. 61.1).

W.-M. Roth (✉)

MacLaurin Building, University of Victoria, V8P 5N2 Victoria, BC, Canada
e-mail: mroth@uvic.ca

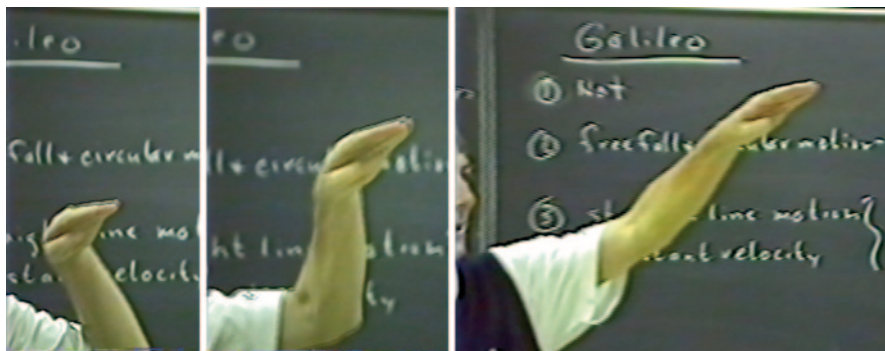


Fig. 61.1 A physics professor enacts a hand movement while talking about the movement of a cart that he had observed together with his students

When the students were tested subsequently, they had no idea what the professor talked about in this lecture (Roth and Tobin 1996). While analyzing this lecture, one of us reproduced the hand movement, thereby creating an iconic signifier of the hand movement we had seen (signified).¹ Soon, however, there was a shift in the manner we used this hand movement: it began, in our use, to refer to all instances where we discovered that the students in these lectures did not understand. Yet another shift occurred even later in our analytic work, when we used the gesture to denote learning difficulties in the sciences more generally.

Looking at this episode, we note first that there is a hand gesture. With it, the physics professor iconically signifies an event to which all of those present in the room at the time had been privy. For a sign to exist, there has to be a signifier–signified relation, which, from the perspective of the professor, exists in the relationship between the hand movement (signifier) and the previous event that they had seen of a cart moving on an air track (signified). There are at least two conditions for this sign to exist. First, the original movement has to be seen—which, according to neuroscience research, requires the capacity to produce such movements with their eyes and other parts of the body. Second, the signifier can exist only as an intentional movement when there exists a form of immanent knowledge of the capacity for such movement (Henry 2000; Maine de Biran 1841). That is, the production of the iconic signifier requires fundamental movement capacities—on the part of the eyes and the body.

Second, we note that the two observers of the episode—my colleague and I—also perceive the hand movement; and they, in turn, reproduce the movement to denote, in an iconic manner, the movement they have seen. This, too, requires, as shown in neuroscientific research, that the observers have the capacity to make the

¹ My work is largely informed by the work of Saussure and its uptake in Russian (Bakhtine [Volochin] 1977) and French scholarly circles (e.g., Derrida 1967; Lacan 1966; Nancy and Lacoue-Labarthe 1992). In this tradition, too, the signifier–signified relation gives rise to infinite displacement, which makes it equivalent to the infinite semiosis and the Peircean interpretant.

movements with their eyes and body (Gallese et al. 2007). Moreover, we see in this episode a second type of shift, whereby the same signifier first signifies another feature of this university course (students' problems in comprehending the lectures) and then signifies problems in scientific understanding more generally. There is therefore a shift from a motivated relation between the signifier and signified to an arbitrary relation, where the movement (here of the hand) bears no relation with the signified.

In this episode, we therefore observe an emergence of signs that has already been described by the little known French philosopher quoted in the exergue of this chapter, who was concerned with habits long before these were made popular by William James, John Dewey, or Pierre Bourdieu. Thus, signs as we use them arise from originary signs. For Maine de Biran, the originary sign is actually a self-relation, for the movement only refers to the movement, which coincides with the original impressions of the movement. It is not yet a sign in the traditional sense, where the sign relations between two (three) different entities. But with this single entity that in referring to itself is nonself-identical, we actually arrive at a post-modern conception whereby the originary sign is not a bi- (Saussurian) or tri-valued (Peircean) entity but a unitary entity that is not self-same. In post-modern philosophy, this nonself-identity of the originary sign has been expressed in the emphasis on the bar that separates the Saussurian signifier and signified (Nancy and Lacoue-Labarthe 1992). This idea has been foreshadowed in the Marxian analysis of value: it manifests itself as use value and exchange value, but these different manifestations have the nonself-identity of value as their prerequisite (Roth 2006).

In this chapter, I take up from research on the emergence of new communicative forms, which I have studied in a variety of contexts, including school science (Roth 2000, 2014, in press; Roth and Lawless 2002b), natural scientific laboratories (e.g., Roth 2009; Roth et al. 2002), among scientists in think-aloud sessions (e.g., Roth 2008; Roth and Bowen 2001), and in university science lectures (e.g., Roth 2012). I present these empirical materials in support of theorizing the emergence of signs from hand movements that originally had only work (ergotic) purposes.

61.2 Evolution of Hand Movements

In this section, I provide a case study of the evolution of communicative forms from a tenth-grade physics course on static electricity. The group that appears in this episode is seated around a laboratory table where one of the two teachers of the unit repeatedly passes by to ask the students about what they have done and learned (Fig. 61.2). The students have conducted an investigation concerning the electrostatic influence on a metal-coated pith ball suspended near the end of a steel rod when a charged plastic ruler is brought near the latter. Physicists explain this phenomenon in terms of a temporary charge separation in the steel rod—achieved by means of electrostatic influence—which itself produces a temporary charge separation in the pith ball in such a way that there are opposite charges on the sides of rod and ball that face each other. This causes the pith ball to be attracted to the steel

Fig. 61.2 A physics student (*Philipp, standing up in center*) explains what they have done in an experiment and how to understand the observations by moving with the end of a ruler along a horizontal metal rod that was part of the experiment. The teacher stands up on the left just behind Matthias



rod, which it touches, and thereby becomes charged. This charge is given back to the rod after the ruler has been removed when the pith ball successively bounces off the end of the steel rod. The purpose of the task is for students to gain familiarity with the phenomenon and then to produce descriptions and explanations, partially through making inferences from known properties of materials and known physics discourse and partially with the help of teachers.

In this section, I describe how students evolve first descriptions and explanations by reenacting parts (or all) of the investigation. Rather than describing what they have done and explaining their observations, students invite the researcher/teacher “to look,” while they *do again* what they have done before. Later, still in the presence of the materials and equipment, the hand movements replace actual objects and events in the multimodal narrative. Subsequently, students employ a different object or gesture to signify some relevant aspect of the event, and finally their entire account of the investigation and its explanation are produced in verbal form. I distinguish three types of functions that hand movements have in this development: In addition to the evident *symbolic* function obtaining to gestures during speech, gestures have *epistemic* and *ergotic* functions. As to the epistemic function, the hands (as well as other body parts) permit the person to perceive qualitative aspects such as the temperature, form, texture, or movement of objects. The ergotic function relates to the fact that humans change their environment: for turning, displacing, compressing, or pulling objects. Epistemic and ergotic movements constitute forms of practical thinking. The following three subsections, therefore, exemplify a shift in the modes and modalities of the signs from work related to iconic and symbolic (e.g., Roth and Lawless 2002c).

61.2.1 *From Ergotic to Epistemic Movements*

The videotapes of the repeated description and explanation of the investigation and phenomenon show that when asked to talk about the phenomena at hand, stu-

dents initially rely almost exclusively on redoing the investigations as part of their attempts and as a context for evolving atomic-level explanations for their observations (i.e., the bouncing pith ball). As the associated events are too fast, students simulate the events by moving the objects through the different stages of the phenomenon. This allows them to describe the observed objects and unfolding (simulated) events in real time making possible the copresence of expressive means and aspects of the world.

Philipp (standing up, Fig. 61.2), Matthias (left, Fig. 61.2) and their two peers not featured in the conversation have repeatedly done the investigation where they bring a charged object (e.g., a plastic ruler) close to (or in contact with) the end of the metal rod opposite to the covered pith ball. In this first of six episodes recorded by the camera, Philipp and Matthias talk about and explain what they have done and seen.

Rather than just talking about the original investigation, Philipp actually runs it again. He discharges the rod and brings the pith ball to its resting position (Fig. 61.3a.i) before charging a plastic ruler and bringing it to the steel rod (Figs. 61.2, 61.3a.ii). He uses his right hand to point (with ruler) to the part of the steel rod where there should be a surplus of electrons (Fig. 61.3a.iii). His left hand first point to the end of the rod where “subfluous” electrons would move so that “it” (the coated pith ball) would be attracted (61.3a.iv).² While talking about the attraction, he makes a sweeping movement with the hand parallel to the pith ball–rod axis where this attraction is to be expected. In the second part of this episode (Fig. 61.3b), Matthias articulates an explanation in terms of the movement of electrons and protons. While talking about the electrons, his hand moves along a linear trajectory parallel to the steel rod (literally “away” [Fig. 61.3b.i, ii] from the pith ball at the opposite end of the table) and returns along the same trajectory; the hand then moves forward again while talking about the movement of protons toward the pith ball (Fig. 61.3b.iii). In the final part of the episode (Fig. 61.3c), Philipp takes the pith ball in his left hand and, while providing descriptions and explanations (“a part is transferred to here”), moves it. While the pith ball approaches the rod (Fig. 61.3c.i), he describes what is happening, “then this is coming there,” and then provides an explanation of the event: “a part is transferred to here” (Fig. 61.3c.ii). He moves the pith ball away from the rod and describes, “then it swings back” (Fig. 61.3c.iii); and, while moving the pith ball toward the steel rod, he utters the description “and then gets to it here again” (Fig. 61.3c.iv).

There are several dimensions typical for the early stages of communicative competence. First, students use equipment and materials, which they describe in observational terms. Second, their explanations are often scientifically inappropriate. Third, in the early stages, students often speak from the point of view of the inanimate entities involved and thereby portray these entities as animate. Fourth, their communication relies heavily on verbal and gestural deixis. In the following, I elaborate on each of these issues.

² In the original German transcript, Philipp used the word “*unterschüssigen*,” which does not exist but is a neologism that builds on the contrast with “*überschüssig*,” superfluous (adjective) in which the same verb root is paired with the contrasting preposition.

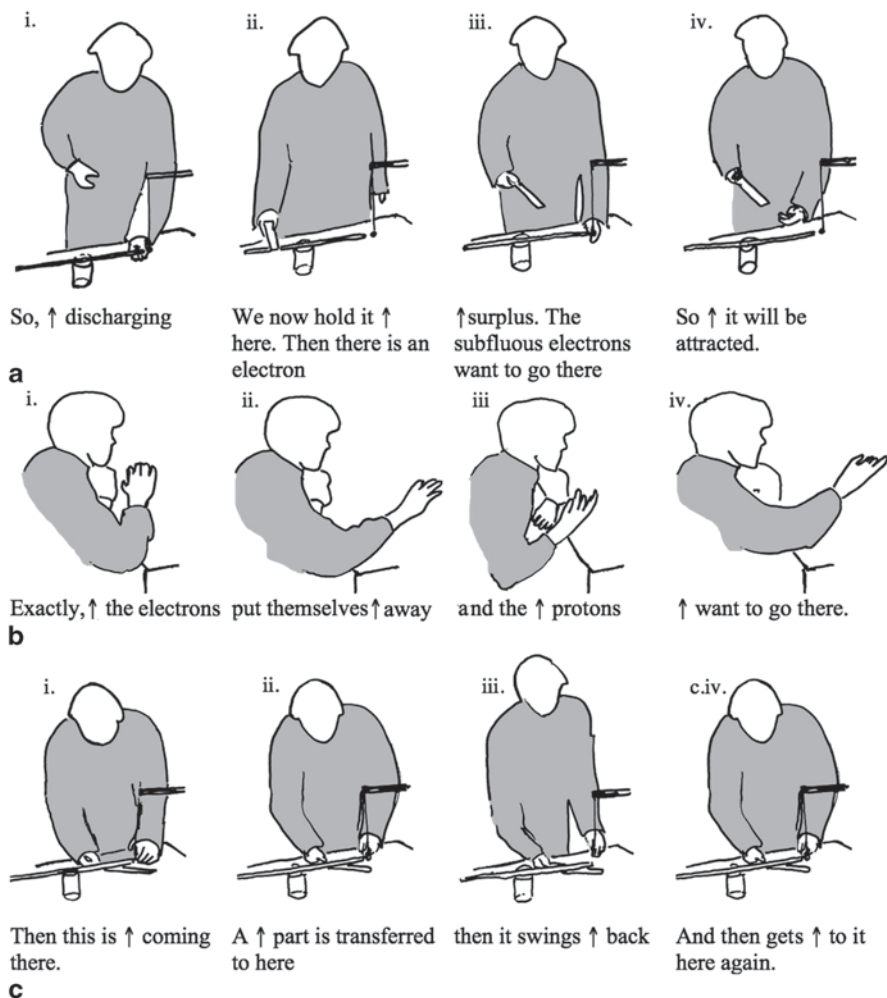


Fig. 61.3 Excerpt from a conversation between two students, Philipp (a, c) and Matthias (b). Philipp (a) constructs an initial explanation as they watch the pith ball bounce. Matthias (b) and Philipp (c) resort to gestures over the equipment but without actually charging the different bodies. The arrow indicates the timing of the gesture with respect to the speech. (The “*up*” arrow indicates the point where utterance and image coincide)

First, Philipp reenacts the investigation while providing a phenomenal description of his actions and observations (“discharging,” “hold it here,” “it will be attracted”). His hand movements, therefore, refer only to his hand movements even in this reenactment of what he has done before; there is therefore a self-relation, and this makes this movement an originary sign. As the event unfolds, he begins a first theoretical description against the backdrop of the events seen by those present. His movements are *ergotic*, bringing about changes in the world that can be observed.

However, the resulting events, here the bouncing of the pith ball, are fast—too fast to be described simultaneously. By taking the pith ball in his hand and reproducing the observation but in slow motion, Philipp recreates the perceptual aspects of the events in iconic form at a rate that allows him to coordinate the events with his speech. Here, Philipp's gestures become *epistemic* as he takes the pith ball into his fingers and moves it through the observed trajectory (Fig. 61.3c). While guiding the pith ball through its trajectory, he stops the motion (or does slow motion) so that his talk about coming, transferring, swinging back, and returning stays in relative synchrony with the actual position of the pith ball.

Second, given that the students in this episode are to learn physics and have to begin this process with the language currently available to them, it is not surprising that they use words inappropriately and described inappropriate physical events—as seen from the current stand of science. In science education, researchers often make a big deal about students' misconceptions as if it were a deficiency. This, however, does not recognize the fact that the experiences and discourses available to them in everyday life are the very ground and resource for developing into mature science. Historically, this is the process by means of which geometry became an objective science during the time of ancient Greek, who developed their first intuitions in the course of experiences that were not scientific (mathematical) at all (Husserl 1939). The very point of this chapter is to develop a theory that can explain how scientific explanation can emerge of our incarnate experiences in the material world. In this case, Philipp makes up a new word “subfluous”; and Matthias describes protons as moving in the metal rod which, from the physicists' perspective is impossible for the nuclei, where the protons are located, are fixed in the lattice of a solid. Although these ways of speaking are not appropriate, they can be seen as first attempts in creating a new form of communication about events that the students learn about and become familiar with at the same time. Whether these new forms actually survive cannot be determined at this point in the events. This is so because language and its purpose arise simultaneously so that any creator of a new language

is typically unable to make clear exactly what it is that he wants to do before developing the language in which he succeeds doing it. His new vocabulary makes possible, for the first time, a formulation of its own purpose. It is a tool for doing something which could not have been envisaged prior to the development of a particular set of descriptions, those which it itself helps to provide. (Rorty 1989, p. 13)

Third, in the early stages of learning about new phenomena and theoretical entities, students' speech and gestures frequently are from the object point of view or portrayed them as animate. In this excerpt, Philipp talks about electrons that “want to go” some place (Fig. 61.3a.iii) and Matthias suggests that the electrons “put themselves away” and protons “want to go” some place (Fig. 61.3b).

Fourth, the videotapes show that in the early stages of these students' examination of physical phenomena and their explanations, there is a high degree of verbal and gestural deixis. This allows direct reference to the objects in the world and does not require the abstract forms typical of written texts, which in fact constitutes their world as a different one (Ricoeur 1986). For example, Philipp not only uses the deictic terms “here,” “there,” “this,” and “it” but the signifieds of these terms

shift even in the brief episode displayed here. “It” refers to the ruler (Fig. 61.3a.ii), pith ball (Fig. 61.3a.iv, c.iii), and steel rod (Fig. 61.3c.iv). From Philipp’s perspective, “there” both refers to the right end of the steel rod where there was an electron surplus (Fig. 61.3a.ii), the left end where there is an electron deficit (Fig. 61.3a.iii), and the right extreme of the pith ball’s trajectory. The same entity also is designated with different indexical terms: when the pith ball approaches the end of the steel rod it is both “here” (Fig. 61.3c.iv) and “there” (Fig. 61.3c.i). Despite these variations and apparent inconsistencies at the verbal level, there is no problem apparent in the students’ communication. With the materials and equipment as ground available to all of them, the respective listeners disambiguate what is being communicated.

61.2.2 *From Epistemic to Symbolic Movements*

In a second stage, students use some of the materials from their investigations as ground against which they layer their explanations. A transition occurs as some movement takes on different functions by transcending itself in referring to something that is other than and external to itself. As the introductory quotation shows, originary signs need to be remarked, that is, marked and re/remarked, to become secondary signs, that is, signs in the way semioticians use them. This is the beginning of a signifier–signified relation in the way that semiotics scholars are familiar with. In this episode, Matthias evolves another phenomenal and explanatory description of the pith ball and steel rod investigation. In the first line of the episode (Fig. 61.4), he describes how holding the charged ruler to the end of the steel rod repels the electrons that then move to the opposite end of the steel rod. His hand movement has two functions: pointing to the place in the rod where the electrons will go (Fig. 61.4a.ii) and iconically imaging the movement of electrons that are repelled (Fig. 61.4a.i, ii, iii, iv).

In the second line of the transcript (Fig. 61.4b), Matthias describes and explains the effect of those electrons that are supposed to be at the (from his position) opposite end of the rod. He suggests that the pith ball (“this uncharged body”) makes an attempt to cancel the charge surplus and therefore pulls itself to the rod (Fig. 61.4b.iv, c.i). His deictic gestures that accompanied verbal deixis (“this,” “it”) make the pith ball stand out as figure against everything else as ground (Fig. 61.4b.ii, iv). The performance of the hand movements, having symbolic function, parallel the articulation of the verbs “equilibrate” and “pull to” as the hand moves from the stretched-out position at the end of the rod all the way in front of him. Toward the end of the episode (Fig. 61.4c.iii, iv), Matthias begins to hesitate about how to complete the description. His explanatory (“equilibrates” Fig. 61.4c.ii) and observational descriptions (“repels” Fig. 61.4c.iv) appear to hang in the air without relating to each other. At this point, he does not yet (as it happens later in the lesson) provide a complete explanation for the process in which observation and explanation are coordinated.

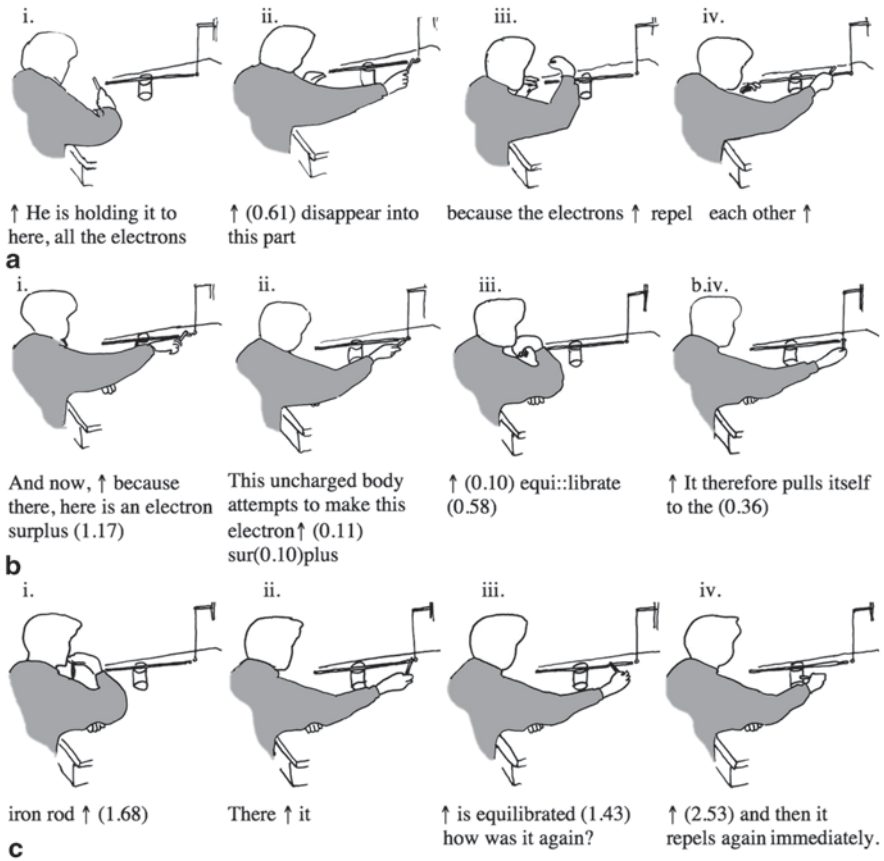


Fig. 61.4 Matthias provides an explanation by using the equipment as indexical ground. (Colon[s] in or at the end of a word indicate that the preceding phoneme is drawn out by about 0.1 s per colon. Numbers [1.68] indicate pauses in seconds)

In the evolution of students' communicative forms, this example is further along than the previous episode where students actually observe the event or move the objects around to be able to describe them and their relations to each other in the various configurations. Here, the original work of the investigation and associated observations are enacted by means of hand/arm movements or described with words. Against the objects present and the verbal description of actions and observations, Matthias presents an explanation. Materials and equipment serve as dialectical ground to/against the explanation; in some cases, arbitrary objects replace them. In the present instance, a pencil (Fig. 61.4a.i) replaces and stands in for the original ruler that he had used to induce electrical charges in the steel rod. The presence of these materials or their substitutes allows students to point to particular aspects without the need to generate verbal signifiers. Matthias does not generally name the iron rod (except in Fig. 61.4c.i), although he repeatedly refers to it. Also,

he does not name the pith ball; he brings the object into the narrative by means of verbal (“this” [Fig. 61.4b.ii], “it” [Fig. 61.4b.iv, c.iv]) and gestural deixis.

As in the previous episode, the same indexical items have different referents; because of the logic of the underlying event to be described and explained, these indexicals are therefore disambiguated. Thus, “it” refers to the charged ruler (Fig. 61.4a.i), pith ball (Fig. 61.4b.iv, c.iv), iron rod (Fig. 61.4c.ii), and the explanation itself (“how was it again,” Fig. 61.4c.iii). In the same way, both ends of the steel rod are designated by the deictic term “here” and the opposite end of the rod is also “there” (Fig. 61.4b.i, c.ii). In each case, the use of deictic reference allows the things in the world to stand for themselves, without requiring additional signifiers (representation). At this stage in the evolving explanation, the visible objects and invisible are animate entities and engage in intentional action. Thus, the pith ball “attempts to make... equilibrate,” “pulls itself” or “repels...immediately.” Furthermore, the rod “equilibrates” and the electrons “repel each other.”

Toward the end of this episode, Matthias has become more independent of the material ground, though he still makes use of indexical words and gestures to designate the things at hand. As he is co-present with these things, he does not need to fully describe them: They go without saying and it suffices to designate the relevant objects, entities, and events by pointing to them or expressing them by means of an iconic hand movement. Moving entities constitutes a form of thought and eliminates thought forms mediated by signs. That is, as in other workplaces, the perceptual gestalts have their own communicative force and do not require additional verbal articulation or elaboration (Roth 2004). Against the material ground, the emerging explanation takes its hold. In these first episodes, speakers take the point of view of the entities with which they themselves are co-present in the situation. In the evolution of communicative forms, even scientists find it easier to talk about the objects and entities as if they are imbued with agency and to move to a dispassionate and nonanimate perspective at a stage when very familiar with the phenomena (Fox Keller 1983).

61.2.3 *From Symbolic Movements to Speech*

The videotapes show that when students become familiar with the objects, equipment, and phenomena produced with them, they no longer require the presence of the materials when they give their explanations. At this point, arbitrary objects serve as signifiers that stand for some object or entity. Thus, toward the end of the second lesson on the steel rod-pith ball investigation, Philipp produces an explanation in which he uses a polyvinyl chloride (PVC) rod in place of the steel rod. He produces observational and theoretical descriptions against the arbitrary PVC rod, which is a placeholder for the materials and equipment of the investigation as a whole. He presents both the phenomenal events and the conceptual entities and their relations (Fig. 61.5). Philipp shows with his right hand where the (charged) ruler is held relative to the rod and, with his left hand, how “everything” is repelled

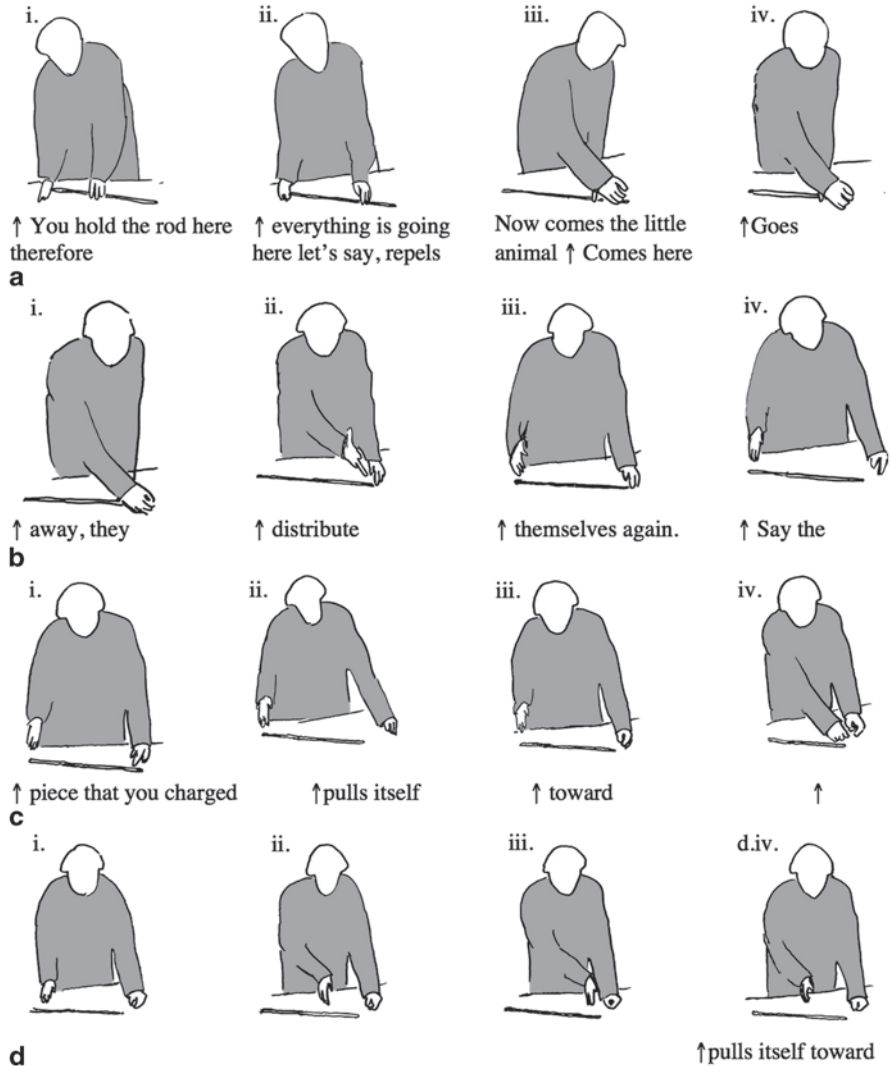


Fig. 61.5 Philipp is in the process of constructing an explanation for induction on the steel rod and the pith ball so that they can describe it in their laboratory notebook. Philipp picks up a PVC rod from his desk and then enacts his explanation using gestures over and about the rod

inside the rod toward the other end (Fig. 61.5a.i, ii). As a consequence, the pith ball moves to the end of the rod and then moves away again. At the same time, there are events that his hand movements reenact over the rod and that therefore are attributed to the steel rod in the original investigation. That is, here we have the sign in its full form, where one thing stands for another. Philipp's right hand moves while he talks about "something" (or "they") that moves within the rod (Fig. 61.5b.i-iii, c.

iv, d.iv), which apparently explains the intimated movement of the pith ball enacted twice with the left hand, following a similar initial presentation with the right hand (Fig. 61.5a.iii, b.i).

In this episode, the PVC rod stands in for the steel rod that had been part of the original investigation; it is a signifier for the steel rod (signified). Resembling the steel rod in shape and size, the PVC rod bears an iconic relation to the object it signifies. In this, its right end corresponds to part where the ruler is approached to the metal rod, and the left end corresponds to that part where the pith ball is found. The atomic level events are gestured to occur inside the rod. The articulation of what happens at the atomic level after the pith ball is initially attracted and repelled is crucial and also the most difficult part of the explanation. Here, Philipp does not yet have the means for a verbal description, but his hand movement enacts a process according to which there is a cyclic process of movements (perhaps equilibration) across the rod (Fig. 61.5c.iv, d.iii). Changing to signifying the pith ball with the left hand while depicting the atomic-level movements with the right hand constitutes the current thought, which I understand, following Vygotskij (2002), inseparable from this multimodal, inherently external presentation (e.g., Roth 2010). As in the previous episodes, he attributes agency to the objects and entities.

The entities used together with the hand movements obtain symbolic function. They track objects and entities and therefore do not need to be signified in other form. Thus, once the PVC rod is designated as a signifier of the steel rod, then no further elaboration is necessary. It is perceptually available to all participants in the setting where it is available for future reference and as long as it is needed. A sign function is established in the here and now and on the fly, enabled by the shared background in regard to the phenomena (equipment, observation) to be explained. As such, these objects also serve as indexical ground to symbolic hand movements without requiring further description.

61.3 Emergence and Evolution of Sign Systems

Previous research has shown that once there are transcendental signs, there is a shift in modes and modality in which signs are produced as students become increasingly familiar with some perceptual field (Roth and Lawless 2002d). My fundamental question is about the requirements for such an emergence that is followed by reproduction and transformation of the signs. Thus, I am concerned with the emergence and evolution of communicative forms that goes beyond accepting the existence of sign systems that children and students appropriate in the course of their participation in collective, cultural life. In the introductory episode featuring two researchers and in the episodes from the high school physics class, new signs that did not yet exist in general culture emerge and are used. These new signs emerge from initial hand movements, which, in the present study, are proposed as the originary, immanent signifiers that only refer to themselves (signified). Or they may emerge, when some object takes the place of another because of an iconic relation, and then may become

part of an abstract sign when the signifier points to something that only bears an arbitrary relation. The originary signs, however, exist in and as a self-relation—steel rod standing for steel rod, ergotic/epistemic hand movement standing for the same movement—rather than as the external relation between two material bodies, one constituting the signifier, the other constituting the signified.

61.3.1 *Immanent Nature of Originary Signs*

In the episode from the tenth-grade physics course, we observe movements that I characterize by means of the adjective “ergotic”; these constitute the originary signs. These movements are designed to get some work done—though in subsequent stages they may also have semiotic (symbolic) function. Thus, for example, to do the investigation, Philipp has taken the plastic ruler, rubbed it on a piece of cloth, and then approached it to the steel rod on the end opposite to where the pith ball is suspended. When he enacts these movements, it is to produce the investigation so that it affords observation; his movements do not (yet) have symbolic function. Initially, when the teacher asks the students to describe and explain what they had done and seen, Philipp asks the teacher to look and then does what he has done before. That is, Philipp reproduces a movement for the purpose of getting the same work done. That is, he enacts work-related movements that stand for themselves in that they constitute a nonself-same repetition of an earlier movement. In the introductory quotation that opens this chapter, this movement, once it is reproducible, is referred to as a *natural* or *originary sign*. It does not involve, however, a signifier that stands for a differently embodied signified (another signifier); rather, it signifies itself (Maine de Biran 1841). Once the flesh immanently knows to produce a movement and even without any form of deliberate consciousness of this movement (e.g., in the walk, ride a bicycle, play a sport), the movement may recall itself (it has become a habit, and, according to Maine de Biran, the basic form of thought). Thus, once Philipp has learned to bring the plastic ruler in the proper way to the end of the metal rod, he can produce this movement over and over again.

A reproducible movement constitutes a force that stands for itself (Maine de Biran 1841). But this self-signification should not be read in terms of a self-identity. The movement recalls itself but is not precisely the same—athletes would not get better at their sport with practice and would play with machine-like precision rather than creatively adapting their movements to the situation. Thus, the “reproduction of the Same is not a motor of bodily movements. We know that even the simplest imitation involves a difference between inside and outside” (Deleuze 1968, p. 35). Movement therefore has the fundamental structure of a signifier–signified relation but within an entity that is not self-same. With repetition, the movement becomes habit, where the “essence of habit” is understood as “an acquired predisposition to ways or modes or response, not to particular acts except as, under special conditions, these express a way of behaving” (Dewey 1983/2008, p. 32). This means that the movement is able to refer to itself as *movement intention*, an expression that is

not meant to introduce transcendent forms of intentionality but leads us to the very predisposition that allows us to move in a particular way.

When the originary sign is defined in this way, the difference between signifier and signified is actually included in an original unity, which, therefore, is a unity of multiplicity. Here, difference comes to be internal to the idea of the sign and therefore “unfolds as pure movement, creative of a dynamic space and time which correspond to the Idea” (Deleuze 1968, p. 24). In this manner, the sign as I define it here “comprehends difference, and comprehends itself in the alterity of the Idea, in the heterogeneity of an *a-representation*” (p. 24).³ It is precisely because of this self-relation within the originary sign that there can be an external relation between its two (transcendent) manifestations (signifier, signified).

61.3.2 *From Immanent to Transcendent Signs*

In subsequent explanations, there is a slight change. Philipp brings the plastic ruler close to the steel road for the express purpose of showing what he has done. Here, then, a hand movement that initially has been part of charging the metal rod now is used to symbolize the charging of the road. Rather than just changing the world by means of ergotic movements, he reproduces these same movements for symbolic means. The originary signs, movements pointing to themselves, which come about as auto-donation (Henry 2000), now have expanded to secondary signs that are characterized by their transcendence and by their external relation to the thing that they stand for. This first transition from the immanent body to the transcendent (felt) body constitutes an auto-revelation. This comes about as the individual

transforms in this way the first into artificial or secondary signs, and multiplies his communicative means, either on the outside or with his own thought. He does more, he communicates to the most transient modifications a part of the availability of his movements, forces them to enter the sphere of his memory, and sort of creates the terms or motives of his will, where there existed none of any kind. (Maine de Biran 1841, pp. 56–57)

At this point, therefore a secondary form of sign has emerged, where the hand movement is enacted independently of the work but refers the listener and speaker back to the work situation: The movement transcends itself and no longer is immanent to itself. Whereas in the former situation the movement recalls itself without requiring consciousness, as an immanent form of knowing, here we have a transcendent form of the sign and, therefore, a transcendental form of knowing. The movement now has become symbolic, used for the explicit purpose of referring to a situation other than the present one. It now makes present again a past present: it re-presences or represents. But the material still is the same, the body/flesh moving the hand/arm combination in a particular manner. A fully transcendental form is

³ I translate the French verb “comprendre” by the English “to comprehend” rather than the “to include” because in this way, it allows the same double-entendre of the verb as “to comprise” and “to understand.” The nature of the sign as difference is thereby comprehended precisely because it comprises this difference itself.

achieved only when the material making the signifier is different from the material making the signified—in other words, when one part of the material continuum is used to refer to another part of the material continuum (Eco 1984). But importantly, the transcendent form is not possible without the initial capacity of reproducing the movement, which differs from itself in reproduction and therefore also constitutes a transformation. This nonself-identity (nonself-sameness) is a requirement for any form of signification, for any sort of memory produced by a living organism.

The distinction made here has its equivalence in the three ways in which the body appears: in immanent (“original/originary flesh”), transcendent (felt, “constituting body”), and external form (“constituted body”) (Henry 2000). The development from the first to the third constitutes a movement of “auto-exteriorization of exteriority that places everything outside of itself, stripping it of its own reality, everything that reveals itself in it is marked by the principle of the seal of irreality” (p. 120). The secondary signs, however, are not independent but they take their functional structure from the primary signs. Thus, “the artificial signs are but grafted, so to speak, onto the natural signs” (Maïne de Biran 1841, p. 57). There is therefore a close association between the secondary signs—which tend to be the objects of interest in semiotics or those of (science, mathematics) educators concerned with the development of abstract forms of thought—and hands-on experiences. In the field of education—as in cognitive science and artificial intelligence—the relationship between hands-on experience and higher order concepts not only is little understood but also creates a problem, because ideas appear to float freely and there are questions about how ideas generally and symbols more specifically are connected to the everyday material world.⁴ As shown here, the primary signs, those existing in and as movements, are foundational to the development of our first forms of thought and for any more advanced forms of thought that are premised by and build upon our first ideas.

Visual perception is an integral part of the episodes. Thus, for example, Philipp refers in different ways to the movement of the pith ball: First to the steel rod and then, following its initial contact, repeatedly moving away and toward it. One way in which Philipp refers to the movement is by reproducing it or an iconic version of it. For example, in one of the explanations (Fig. 61.3c), he grabs the pith ball, moves it toward the steel rod until it makes contact, then moves it away only to return for a second time. In this way, he reproduces the movement but this time moving the pith ball rather than allowing it to react to the electrostatic forces that would act without his interference. The movement also is symbolically reproduced, for example, when Matthias points to the pith ball and then moves his hand parallel along the steel rod while saying that it pulls itself followed by the reverse movement while talking about the ball being repelled after contact with the rod (Fig. 61.4b, c). In this instance, they report a visual-perceptual experience in iconic form. Here, the forces that produce the movements differ: In the investigation the force is a natural

⁴ Cognitive scientists speak about the “symbol grounding problem.” In education, a similar problem is denoted by the distinction between *knowing that*, characteristic of ideas about the world, and *knowing how*, characteristic of acting in the world.

one whereas in the explanations it is a life force. But considered as an instant of thought, the symbolic movement coincides with the natural movement. We therefore have the beginning of an answer for the “difficulty constantly facing every theoretician [which] lies in understanding what it is that links knowledge... and its subject matter together” (Il’enkov 1977, p. 16). In these symbolic hand movements, we therefore overcome the Cartesian divide: There is but “*one single* object, which is the *thinking body* of living, real man” (p. 31).

Now it may appear that the hand movement and the eye movement have little to do with each other; but this is not the case. Initially described at the beginning of the 1800s, it is now well established in the neurocognitive sciences that without bodily movement in the world, we do not learn to see (Varela et al. 1993). But, “as soon as vision is intimately associated with all the operations of the exercise of motility, it extends itself to the distance” (Maine de Biran 1841, p. 62). This leads to the situation that for the individual

the play of his imagination fuses itself, confounds itself with that of the external sense, without that he could in most instances distinguish their products; he simply believes to see, *sense*, and he imagines, he compares, he acts even as a consequence of multiple judgments of which he is not actually conscious. (p. 63)

That is, the perceptual mode is directly modeled and dependent upon other movements that displace the organism or move parts of its body (e.g., to reach for something). Thus, whether the students use a metal rod or a PVC rod, the eye movements still are the same, following the elongated object. One rod can take the place of the other because the apperceptive eye movements are the same (but not self-same). The students would not be able to see the movement whether there did not already have the immanent capacity to produce this movement with some part of the body. As neuroscientists showed, “the mere observation of an object-related hand action occasions in the observer an automatic activation of the same neural network active in the person performing the action” (Gallese et al. 2007, p. 133).

61.3.3 From Motivated to Arbitrary Signifier–Signified Relations

The final step in the development is taken when an arbitrary signifier—different material and form—takes the place of the perceptually motivated signifier. For example, when Philipp withdraws the pith ball from the metal rod and approaches it (Fig. 61.3c.i), the movement depicted by his hand also is described verbally. Whereas the symbolic hand movement already has transcended the original phenomenon, it is still bound to the original movement, if not materially then by means of form. But, being transcendent, it already is outside of the original movement. The arbitrary relation becomes possible because the felt body is already a transcendent one, which makes available the sensible world that transcends the person and becomes independent of it (Henry 2000). As the hand movement has taken on transcendent character and therefore symbolic function, it can now be viewed from the outside, is a movement objectively available to others, who, in their own bodies, may repro-

duce it. The movement, thereby, has become independent of the immanent and of the felt, constituting body. This has as consequence that the movement can also be referred to by something that no longer bears the same material or form. As There is an interlacement of the constituting (body) and the constituted world, as shown in the phenomenological investigations where one hand explores the world and is itself explored by the other hand (Merleau-Ponty 1964). Both are transcendent, but the one is felt from the inside, the other felt as being on the outside. It is this transition from the inside to the outside transcendent forms that constitutes the difference from the iconic to the arbitrary relation. As my opening example shows, once the hand movement of the physics professor stands out and is reproduced intentionally on the part of the researchers, there is only a small step to use the movement, qua transcendent (secondary) sign to refer to something else or, conversely, to be referred by other semiotic means, for example, as a “curvilinear left-hand gesture.” It is the first step in the metaphorization from bodily movements to the world of ideas that is said to underlie all conceptual systems (Johnson 1987; Roth and Lawless 2002a).

That a transition occurs does not mean that it is an easy one in every instance as shown in research that highlights the difficulties of professors having to produce alternate verbal descriptions for the line graphs that they have produced for a lecture (Roth and Bowen 1999a). That is, precisely because arbitrary signifiers bear no relation other than conventional ones to the signified, even experts may be hard pressed translating between different sign systems to denote the same natural phenomenon (Roth and Bowen 2003); considerable incarnate coordination work is necessary to make and stabilize this connection (Roth and Bowen 1999b).

61.4 Coda

In this chapter, I provide empirical examples of the emergence and transformation of sign forms from initial ergotic hand movements. I develop an explanation for this development that is grounded in a theory of the incarnate body (flesh), which auto-donates immanent originary signs that are subsequently transformed into transcendent secondary signs that historically have been the focus of semiotic studies. This work is of tremendous importance to those areas of education interested in supporting cognitive development through hands-on experiences.

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Wolff-Michael Roth is a learning scientist at the University of Victoria conducting research on how people across the life span know and learn mathematics and science. He has contributed to numerous fields of research: learning science in learning communities, coteaching, authentic school science education, cultural-historical activity theory, social studies of science, gesture studies, qualitative research methods, embodied cognition, situated cognition, and the role of language in learning science and mathematics.

Chapter 62

Extending Students' Semiotic Understandings: Learning About and Creating Multimodal Texts

Katina Zammit

Communication in the world is multimodal. When we interact with others online, face to face or with the artefacts of our culture, we are interpreting meanings developed through combinations of modes: written, spoken, audio, visual, and gestural. Conveying meaning to another is no longer the provenance of the written word alone (Kress 2001, 2003). Being able to convey our thoughts through a combination of modes has become an essential skill in order to fully participate in society (Kress 2010; Serafini 2010). While literacy is still viewed as a socially situated cultural practice (Green and Beavis 2013; Street 1984), what counts as literacy and literate practices has changed (Lankshear and Knobel 2006; New London Group 2000). Literacy education, it can thus be reasoned, needs to take into account this changing 'textual habitat' (Unsworth 2008, p. 4) if it intends to meet its 'utilitarian brief of preparing young people for the present and future world' (Green and Beavis 2013, p. 44).

Within this social context, policymakers and educational associations have begun to include creating multimodal texts and the practices surrounding developing understandings of multimodality in curricula (Australian Curriculum Assessment and Reporting Authority (ACARA) 2012; Dalton 2012) and policy statements related to twenty-first-century learning (National Council for the Teaching of English (NCTE) 2008). These acknowledge that literate practice is more than the ability to work with print and create written texts and that there is more than one way for students to demonstrate understanding of content.

The texts students engage with and that are part of their textual world are more complex, and the technology to create them also more demanding, than employed for the creating of paper-based written texts. Technology enables students to integrate different modes to convey their understandings of particular topics. It facilitates the design, creation, and dissemination of a multimodal text (Edwards-Groves 2011; Jewitt and Kress 2010; Mills 2010; Zammit 2007a). Teachers, however, need to provide opportunities to explicitly teach 'elements of design' simultaneously with the tools of technology. Green and Beavis (2013, p. 44) refer to this as 'developing a repertoire of capabilities in terms of both mode and medium'.

K. Zammit (✉)

School of Education, University of Western Sydney, Locked Bag 1797, Penrith, NSW 2751, Australia

e-mail: k.zammit@uws.edu.au

The challenges for teachers are how to increase students' knowledge base of semiotic modes and their affordances; what semiotic resources to explicitly teach; how to incorporate these into their curriculum; and how to provide opportunities to learn the technology as well. Teachers are not always comfortable about making changes to their pedagogy nor feel at ease when making changes even when they perceive them as important for the future of their students. But once they start, it changes them and their practices (Hagood 2012; Zammit 2013).

In classrooms where teachers and students work with technology and multimodal texts, students have opportunities to discuss the construction of multimodal texts in specific contexts similar to those they are expected to create (Bearne 2009; Mills 2006; Zammit 2007a). This provides students with access to 'available designs' (Ranker 2007) and the 'rhetoric of representation' (Bearne 2003). As the New London Group (2000) and others have noted (Bezemer and Kress 2008; Kress 2000; Kress and van Leeuwen 2001), each semiotic mode has its own *form* of conveying meaning. For example, written text is linear, visual is spatial. Each has a different reading path created by the composer of the text. When image and writing are combined to form a single text, the meanings are multiplied (Lemke 1998) and image can illustrate or expand the written text (Barthes 1977). Exposure to multimodal composition provides opportunities to teach these *forms* and how to transform texts to meet curriculum and assessment requirements (Bezemer and Kress 2008). By including the explicit teaching of multimodal texts, teachers change their teaching practices (Zammit 2013). They move beyond the teaching of written text and the process of writing. In this move, they initiate a change to the practices in their classroom. Examples of multimodal texts are deconstructed, and, through the explicit teaching of how these texts are created, students develop an understanding of the affordances of different semiotic modes: the linguistic (written), spoken, audio, visual, and gestural (New London Group 2000). These understandings are then deployed in the creation of students' own multimodal texts to demonstrate learning outcomes in the content area and their 'multiliterate' practices.

Nevertheless, scaffolding of students understanding of the construction of multimodal texts in order to create similar texts is often not considered. At times teachers assume, because students are growing up surrounded by technology, and multimodal texts, that they are proficient users. But this cannot be assumed. While students may be more confident users of digital technologies than adults (Green and Hannon 2007), they are not savvy. They may be 'digital natives' (Prensky 2001), but this well-known phrase oversimplifies the situation, to the detriment of many students.

In this chapter, I explore how teachers scaffolded students learning about multimodal texts in context in order to prepare them to create their own multimodal texts. Students' final products provide evidence of their use of different semiotic modes that conveys their understandings of the content area, demonstrating how their interest and the available resources enabled them to select the most apt means of communicating their knowledge. To situate the study, I begin with considering the concept of multimodal social semiotics before describing the context of the study and discussing the semiotic work undertaken and the texts produced in the classrooms.

62.1 Multimodal Social Semiotics

According to van Leeuwen (2005, p. 3), the enterprise of semiotics is, above all, a social practice. A social semiotic theory is interested in meaning as it relates to individuals in social environments, as socially shaped according to specific historical, cultural, and institutional contexts (Kress 2010; van Leeuwen 2005). Creating multimodal texts involves teachers and students in understanding and deploying the full range of communication forms: linguistic (written), spoken, audio, visual, and gestural. It involves them in 'semiotic work' (Kress 2003), as they make choices about how to best present their knowledge, which mode/s to use, and how to combine them in an overall form that will be meaningful to someone else. As Mavers (2009) notes, it is not only the texts students produce but also the classroom itself that is a 'semiotic ensemble of meanings' (Mavers 2009, p. 145).

Multimodal social semiotics, which encompasses the field and theory of multimodality, is based on Halliday's systemic functional grammar (SFG) (Halliday 1994) that describes and analyses linguistic texts, and extended through the work of others into other semiotic modes, such as the visual (Kress and van Leeuwen 2006; O'Toole 1995); multimodal, such as mathematics (O'Halloran 2005) and hypertexts (Djonov 2007; Zammit 2007a); and more marginal modes of communication, such as colour (Kress and van Leeuwen 2002). Language is only one mode of many used to create meaning in a multimodal text: a multimodal ensemble, where each mode realizes different communicative work (Jewitt 2012, p. 97). 'The semiotic resources used to create multimodal texts are different to the ones used to create printed written texts and bring with them different potentials for making meaning' (Serafini 2010, p. 86).

Multimodality, according to Jewitt (2009), is underpinned by four interconnected theoretical assumptions:

1. Language is part of a multimodal ensemble and representation and communication always draws on a multiplicity of modes, all of which have the potential to contribute equally to meaning (p. 14).
2. Each mode in a multimodal ensemble realizes different communicative work, which have been shaped through their cultural, historical, and social uses to realize social functions (p. 15).
3. People orchestrate meaning through selection and configuration of modes, with meanings in any mode interwoven with the meanings of all other modes co-present in the communicative event (p. 15).
4. Meanings of signs fashioned from multimodal semiotic resources are social; shaped by the norms and rules operating at the moment of sign-making, influenced by the motivations and interests of a sign-maker in a specific social context (p. 15–16).

During the construction of multimodal ensembles (texts), we draw on the available resources we have in order to communicate our ideas and understandings in a specific context. The resources available are part of that context (Jewitt 2012). Our selection of resources is based on their availability and the affordances of each mode which will best convey that meaning: 'the most apt, representation of the meaning

the maker of the sign wishes to represent' (Kress 2003, p. 144). The relation between the form of the text and meaning is one of aptness, of a 'best fit', 'where the form has the features to be the carrier of the meaning' (Kress 2010, p. 1). We orchestrate our meanings through the selection and configuration of modes, choosing one semiotic mode over another based on interest: 'there is a good reason to use *this* form for *that* meaning' (Kress 2010, p. 5). In the process, we translate meanings from one mode to another through transformation, which describes changes in arrangement within a mode, or transduction, which describes changes involving a change in mode (Bezemer and Kress 2008).

As Jewitt and Kress (2010, p. 342) summarise:

A social semiotic take on multimodality focuses on the process of making meaning through situated practices and interpretation, the design (selection, adaptation, transformation) of multiple modes and the representational features available by social actors in the environments of their daily lives. The emphasis is firmly on *sign-making* and the agentive work of the sign-maker in a specific place and time.

Multimodal social semiotics has also informed pedagogical models which foreground the teaching and learning of multiliteracies, of multimodality, and the creating of multimodal texts in authentic contexts (Kalantzis and Cope 2005; New London Group 2000; Unsworth 2001; Zammit and Downes 2002). These pedagogical models or frameworks are similar in the following aspects:

1. Teaching students about the text's social purpose and construction (its design principles): involving deconstruction of a text, developing a metalanguage(s), learning how a text is put together, scaffolding the development of knowledge about the processes, and 'textual' resources and medium.
2. Working together: building knowledge of the content area, constructing a similar text together, working collaboratively on a text, critically analysing together, and scaffolding the learner's actions.
3. Independent work (designing their own): students working without an expert's assistance, drawing on their new knowledge. (Zammit 2010, p. 331).

While these pedagogical models assist teachers to explicitly support students' understandings of multimodal texts and to create them, it is often the case that students are not provided with any instruction on the different modes or how modes are used or can be deployed to meet content area outcomes (McDowall 2011; Wilson 2011). However, the increasing use of multimodal texts in classrooms may implicitly have an effect on students' understandings and their literacy practices (Jewitt 2011; McDowall 2011).

62.2 The Research Context

The primary school was close to Sydney's central business district (CBD). It had a culturally rich school population with 29 cultural groups represented, 73% of children had English as another language (EAL), of which 38% were Chinese speaking.

There were also 17 Aboriginal and Torres Strait Islander students, and 42% of all students had been learning English for three years or less.

The team consisted of three classroom teachers (year 3, year 3/4, and year 4/5), three support teachers (teacher-librarian, English as a second language (ESL) teacher, and support teacher learning difficulties (STLD) teacher), the principal, and myself. These particular years were chosen because this time is a crucial point for moving into academic English for students, 'a gear change' is needed in regard to use of English. The teachers were very familiar with the explicit teaching of the organisation and grammar of written genres, employing the curriculum cycle of building the field, deconstruction, and joint construction before students independently constructed a text (Martin 1999). The project took place over 18 months. My role included building understandings about the teaching of multimodality, associated metalanguage, and creating multimodal texts using technology; facilitating the action research process; and collaborative teaching.

An action research approach was employed (Kemmis and McTaggart 1988). To assist planning for integration of the electronic medium and multimodal texts, teachers were introduced to the New Learning Environments framework (NLE; Zammit 2010; Zammit and Downes 2002), comparing it with the 'genre' curriculum cycle.

The first action research cycle was based on a local environmental theme: Describe people's interactions with the environment and identify responsible ways of interacting with the environment. All teachers chose the same theme to support each others' professional learning. We spent time working through the issues of (i) what were the important ideas and questions to pursue and (ii) how were these realized in the curriculum outcomes presented in the COGs¹ unit versus the NSW Science and Technology K-6 (NSW Board of Studies 1996) or NSW English K-6 syllabi (NSW Board of Studies 1998). The teachers chose to focus on creating a multimodal description to represent student learning using Movie Maker as the text creation tool.

The second action research cycle also required teachers to focus upon the purpose of the multimodal text students would create, choosing the technology to suit the purpose of creating a multimodal text to demonstrate student understandings. Colin² (year 4/5) and Winona (teacher-librarian), with the support of Kathryn (ESL teacher) and Veronica (STLD), chose Movie Maker for students to create a documentary on an endangered species within the global and social issues COGs unit. Renee (year 3) and James (year 3/4), with the support of Kathryn, Veronica, and Winona focused on creating a hypertext PowerPoint on the human body.

Benchmark data about students' understandings of written text (recounts) and teachers' judgements of writing (recounts) were obtained prior to the project. Data collected came from notes of meetings with teachers, teacher discussion of student artefacts, teachers' programmes of work, and field notes.

¹ COGs stands for Connected Outcomes Group, which combines outcomes from different curricula syllabus documents and describes a unit of work that will work towards achieving these outcomes. <http://www.curriculumsupport.education.nsw.gov.au/timetoteach/cogs/index.htm>.

² All names are pseudonyms.

62.3 Multimodal Orchestration: Doing Semiotic Work

In this section, I present aspects of the three curriculum contexts covered in the two action research cycles where the teachers and students worked together to learn with, about, and create multimodal texts. Two programs were used as the publication medium: Movie Maker™ and PowerPoint™. Both provided a range of semiotic resources to assist students to create multimodal texts. Each curriculum context is outlined, with reference to the content area and multimodal literacy expectations. Following this, some of the teaching and learning activities are described, ending with a general discussion about the orchestration of the multimodal ensembles students created.

62.3.1 *The Local Environment: Visual, Written, and Audio Movie*

The first curriculum context for learning and creating multimodal texts was learning about the students' local environment, and how it has changed, which was part of the Human Society and Its Environment (HSIE) key learning area, and one aspect of the COGs unit entitled 'Local Environments'. Learning about the different modes occurred in context of students learning about their local environment. In relation to the written mode, the teaching and learning experiences introduced students to the organization and language of written descriptions, specifically the use of descriptors (adjectives) within the nominal (noun) group. The pedagogy was based on teachers' knowledge of the 'genre' curriculum cycle they had been using in their classrooms. Selection of relevant images and soundtrack to include in their multimodal text and the tools of Movie Maker, such as inserting written and visual texts and transitions, were also included as part of students' learning. In this way, teachers provided access to the semiotic resources students could deploy to convey meaning and share their understanding of the changes to their local environment.

Beginning with the mode that the teachers felt most comfortable with, they scaffolded students' learning about how to write a description, focusing students' attention on the use of adjectives and 'descriptive' noun groups for providing detail. Nadia Wheatley's book *Going Bush* provided examples of 'descriptive' noun groups (in italics, not in original text). For example:

On the freshwater banks, willow trees remind us of the homesick English settlers, who brought the plants to make the strange country look like home. Now willows are a pest. They clog the waterways. (Wheatley 2007, pp. 8–9)

As a class, students discussed and described historical images of the natural and built environment of Sydney in the past available through the NSW State Library website. For Sydney in the present, students went on an excursion to the city and a harbour trip, taking photos and videos. These visuals and others collected from other sources were then used as a means for describing what Sydney was like in

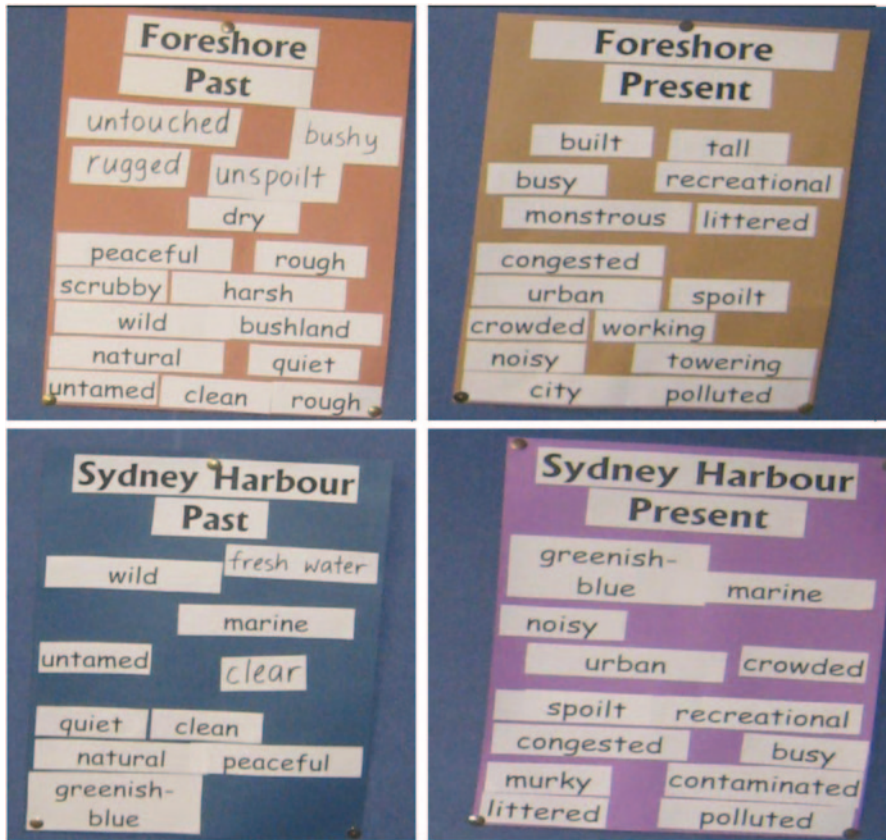


Fig. 62.1 Example of word banks of describing words

the present: natural and built environment, and for comparison with the historical images. Word banks of describing words for Sydney in the past and Sydney in the present were created as a resource for students (Fig. 62.1). The word banks were used for other activities in the class, for example, a cloze passage with the describers missing.

Kathryn, the ESL teacher, provided an example of a description of 'The Sydney Environment Today' in the form of a cloze passage as a model for students. Each class produced a different form of a description depending on the slightly different social purpose chosen by the teachers for scaffolding. Students in the year 4/5 and year 3/4 created a multimodal description of Sydney Past and Sydney Present, while the students in the year 3 class created a description that included Sydney Past, Sydney Present, and Sydney in the Future.

All students worked in pairs to create their multimodal description and learned how to use Movie Maker, supported by their class teacher, the ESL and/or STLD teacher, and the teacher-librarian. As this was the first time teachers had used Movie

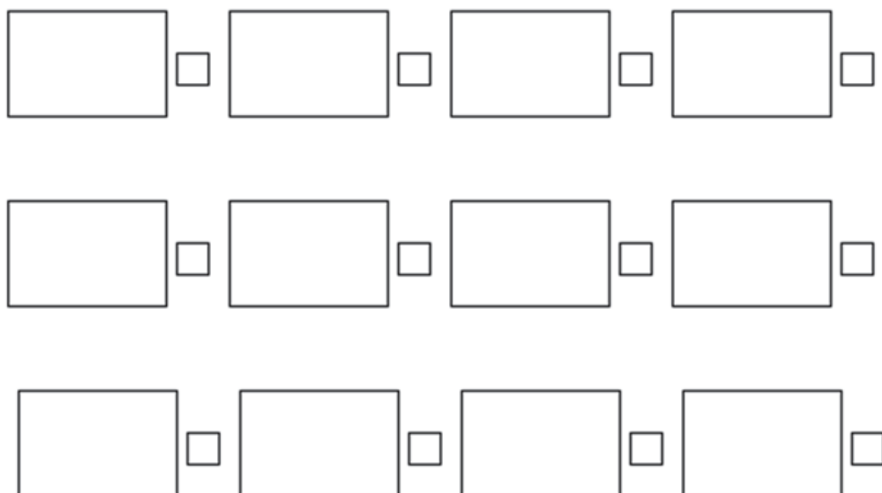


Fig. 62.2 Storyboard proforma

Maker as a creation tool, they were themselves learning about the program's potentials, supporting students learning of the technology and learning from the students.

To assist students to conceptualise the image–written text relationship, teachers introduced storyboards for students to draft their description (Fig. 62.2). Access to computers was limited, so the storyboard provided students with a scaffold to create their multimodal description. Students planned placement of image and written text, as well as transitions between screens. Written text was drafted on the storyboard, for example, *The Eora people used to hunt native animals for food and clothing; When the Eora people lived in Sydney, it was peaceful, wild, and clean; Sydney today is a noisy, busy, commercial city*. Changes were made if the students wanted the wording of the written text changed when typed onto the Movie Maker screens. At this point, students also chose 'appropriate' background, typography, and colour for the written text, making it a visual element. These linguistic design elements were added during digital editing similar to the texts produced in Mills (2010) study. The colours chosen for the background and fonts also served a textual function, creating coherence across the screens in the movie when it was played (Kress and van Leeuwen 2002).

However, at the storyboard stage, most students did not plan the transitions. Some students used a question mark '?' in the small square to denote there would be one, and others left it blank. As they constructed their movies, students tried different transitions before making their selection and sought assistance from their peers when they used a 'cool' transition. In addition, images were not selected in the design phase because students did not have ready access to them. In a similar fashion, some students employed the word 'image' on the rectangle to denote where they would place an image, and others, predominantly the year 3 students, drew a picture of what they wanted to have as an image.

Working in pairs, students created their digital multimodal text using the library's computers while they referred to the storyboards they created. The availability of images limited their choices in designing their movies, as only copyright-free drawings and paintings could be selected. The result was that the same images were used by different students but associated with different linguistic choices in the written text depending on students' storyboards and final design decisions.

The majority of the multimodal texts were constructed as Title screen, ^ [Written text screen ^ Image screen] x n, ^ The End screen. In this context, the ^ signifies followed by and denotes a transition being used, such as fade or block out. Image and written text were presented on separate screens (mostly by students in year 3/4 and year 4 classes). A few of the year 4/5 students used Title screen, ^ [Image+ written text on screen] x n, ^ The End screen, combining the visual and written mode into a single entity on a screen. Some students in the year 3/4 also inserted a short video extract from their excursion where they were describing what the foreshore was like at Darling Harbour, which is part of the Sydney's foreshore.

In relation to audio, none of the projects included a voice-over. The teacher-librarian provided access to a selection of 'free' music, and students chose a soundtrack to insert. There was limited discussion about soundtracks, or about how the selection of a soundtrack may influence the meaning of a text. Students made selections based on personal aesthetic reasons, that is, they liked the music. While not asked about their choice of soundtrack, it could be surmised that they thought it was the most apt for their movie and the message they were conveying. As a result, there were similar visual-written texts that differed considerably as a result of the soundtrack—upbeat, popular music versus quieter, classical music.

During the creation of their movie, students were also involved in re-crafting their texts. The initial designs contained in the storyboards were adjusted, as mentioned above, and students spent time reworking and editing the screens, the transitions, and the soundtrack until they were satisfied with their movie description of the local environment. Through the editing process, the screen space became a site for learning that when creating meaning using multiple modes, meanings are multiplicative (Lemke 1998; Mills 2010) and that writing is not the only mode that can be used when communicating with others (Kress 2003).

The emphasis in this explorative stage was on creating rather than using or critiquing electronic multimodal texts consisting of visual, print, and audio texts. The multimodal texts created could be interpreted as a set of understandings about time, continuity, and change (recounting) as well as preservation and care (persuading) with respect to a particular place: their local environment.

62.3.2 Endangered Species: Visual, Written, and Audio Movie

In the second curriculum context, the year 4/5 continued to work with Movie Maker as the medium for producing a multimodal text, refining the students' understandings about multimodality. Students, working in pairs, created a mini-movie documentary on an endangered species within the global and social issues COGs

unit. From evaluating the first cycle, the teachers believed they had not provided enough explicit scaffolding and deconstruction of an example of a multimodal text that students were to create, so they planned to provide opportunities to discuss the modes in a multimodal construction: the role of each, how they were used, and what resources were deployed. The year 4/5 teacher developed his own model text to deconstruct with the students so he and the support teachers could focus on scaffolding the learning of metalanguages for the voice-over (written) text, the composition of the multimodal (visual/written/spoken) text, and the technology. This phase further developed teachers' understandings of the construction and grammar of the linguistic, visual, and multimodal.

The teachers also used examples from a news programme designed for primary-aged students called *Behind the News*, during the scaffolding stage. As a class, the teacher and teacher-librarian directed the discussion of the modes used to create a segment, focusing on the nature of the voice-over and purpose of the images shown. Through discussions we had at meetings, the teachers realized that the voice-over was not a spoken text but a written text presented through the medium of speech and that the language used was similar to a written information report. They discussed this with the students in relation to the narration used by documentary producers, pointing out that the person who is talking is actually reading a written script, and they are not making it up as the images appear on the screen. As a result, students wrote information reports, with at least one paragraph on why the species was endangered. They were scaffolded through this process using a proforma to gather information.

The class was unable to obtain any video footage on their excursion to the zoo or from online sources, so students used photos, scripted the text, and produced their movie. Students created their multimodal texts on endangered animals, such as crocodiles, orang-utans, and tigers, as a series of images connected through the voice-over, which was the reading of the written text. Students spent time ensuring that timing of the movie was correct so it ran 'smoothly' from one screen, with image and information, to the next, ensuring the narration matched the timing. Many takes were needed before the narration was timed to match the changing screens. The orchestration of the modes was particularly important for these movies.

In comparison to the local environment description movies, the majority of the endangered species movies consisted of Title screen ^, [Image+written call-out (New information)] x n, ^ Credits with the spoken text as continuous audio (see Fig. 62.3 for sample screens representative of the movie screens). The written text in the call-out contained new information, for example, *enormous arm span*. Further details were provided by the narration. The call-outs were placed in the centre of the screen, sometimes on an angle, and appeared after the voice-over mentioned the information subsequently presented in the written text placed in the call-out. The call-out shapes were mostly starbursts, imbuing a sense of urgency in the movie and reinforcing the points being made in the narration and on-screen written text. The call-out remained on screen until the movie transitioned to the next screen. Similar to the local environments movies, the written text was highly visual. The colour selections for the call-out and written texts realized both an interpersonal and a textual function (Kress and van Leeuwen 2002), as the resource both engaged the



Fig. 62.3 Sample screens representative of endangered species Movie Maker texts. (Image 1 sourced from: <http://www.everystockphoto.com/photo.php?imageId=6595298> under license of http://www.freeimages.com/info.phtml?f=help&s=8_2, Image 2 sourced from: <http://www.everystockphoto.com/photo.php?imageId=145802> under license of <http://www.morguefile.com/license/morguefile/>, Image 3 sourced from: <http://www.everystockphoto.com/photo.php?imageId=7925581> under Creative Commons license <http://creativecommons.org/licenses/by/2.5/>)

emotions of the viewer and also assisted to connect the screens together as a single unit.

The images students selected were often not just representations of what the animal looked like or of them in their natural habitat. Many images students selected also conveyed an emotive, interpersonal component to reinforce their persuasive message about the endangered nature of the animal. For example, a picture of an orang-utan with humans, a picture of humans cutting forests down, and an orang-utan eating fruit but being fed by a keeper or tourist. The images provided powerful messages to the audience, beyond the factual information conveyed in the voice-over about the animal. The selection of images extended the meanings, not through repetition but through elaboration (Barthes 1977). Though this classification does not fully capture the meaning conveyed through the interaction between image, writing, and voice-over.

Students and teachers were heavily involved in semiotic work, learning about translating meanings from one mode to another, using the most apt mode/s to communicate their understandings of an endangered animal. Selection of images was not simply a cut and paste (Skaar 2009). Much thought went into not just the selection but the sequence. The teaching and learning of the multimodal, such as the selection and deployment of images within and across screens, the design of screens and the sequence, the choice of font and colour, the words to include, required similar amounts of semiotic work, not less. The multimodal ensembles created also demonstrated their developing awareness of the affordances of different modes and how to deploy them to convey meaning. They learnt that ‘there is a good reason to use *this* form for *that* meaning’ (Kress 2010, p. 5).

62.3.3 *The Human Body: Visual and Written Hypertexts*

The second curriculum context for the year 3 and year 3/4 classes focused on creating a hypertext PowerPoint™ on the human body. PowerPoint™ has been used in schools for a number of years and is present on all computers. Some would attest

that it is over-used as a presentation tool or medium for creating texts, to the point where it does not appeal to students. While others believe it has great potential as a semiotic resource (van Leeuwen et al. 2013) that can encourage creativity and learning (Gabriel 2008). From my experience, young students only know about and use a limited range of the tools and affordances of the program though they are confident users of the program.

The written and multimodal explanations about the human body required explicit teaching. The shift into academic language usually associated with written text was assisted by the use of images and animations on the Internet and other resources, such as videos and books. The availability of body system diagrams allowed comparisons to be made between published written explanations and the affordances of the multimodal versions.

The teachers explicitly taught the organization and grammar deployed in written explanations, building up a databank of words related to each body system. For example, ‘Grammar used in an explanation of the digestive system’, ‘Grammar used in the explanation of how a heart works’, and ‘Grammar: respiratory system’. Each week, students learnt about one of the human body systems through different modes, and were involved in deconstructing a written explanation. During these sessions, the ESL and class teacher guided students as they highlighted and learnt about technical vocabulary, connectives, verbs (action or relating), and adverbial phrases (circumstances; see, for example, Fig. 62.4).

The first body system to be investigated was the digestive system. As part of learning about the digestive system, the class compared different versions of an explanation of the digestive system: a written explanation and a diagrammatic representation with captions. As a class, the teacher collaboratively created a PowerPoint™ version of the digestive system, with a diagram, labels, captions, and an

Grammar Used in the Explanation of How the Heart Works				
Tense	Technical Language	Connectives	Verbs action/relating	Adverbial phrases
present	inferior vena cava oxygen poor deoxygenated	first	enter	from the lungs
	aorta	then	return	to the heart
	ventricle	next	pump out	from the body
	atrium	after that	travel	out through the aorta
	via		carry back	in a cycle
	pulmonary vein		carry away	
	oxygen rich		come back	
			become	
			call	
			flow	

Fig. 62.4 Word bank for ‘Grammar used in explanation of how the heart works’

animation of a piece of food moving through the system. This also provided an opportunity to ensure all students were familiar with the tools of PowerPoint™ needed to create their own multimodal texts. Working in pairs, students then created their own PowerPoint™ version of the digestive system.

As students continued to learn about the different systems, a new page was added to their PowerPoint™ texts. A title page was also added, with a hyperlinked title for each of the different human body systems (see Fig. 62.5 for a mock-up). The text became a hypertext through this hyperlinking to different pages within the PowerPoint™, enabling the reader to move through the text in a sequence of his/her choosing. PowerPoint™ provided the potential to move out of the linearity of a presentation to a spatial, interconnected (though limited) presentation of understanding. Of course, *The human body* PowerPoint™ could be read linearly, moving from one screen to the next in the screen sequence organized by the program: title screen, followed by a screen on each body system presented one screen after the other, representative of the sequence in which they were originally created.

Students learned to use more of PowerPoint's semiotic resources (van Leeuwen et al. 2013), deploying them to assist their communication purposes. They used it for more than just writing a list of points (Turkle 2003). Students learnt about creating a hypertext and animations, making use of more visual resources available for conveying their messages. They used PowerPoint™ in a more creative way than previously.

Students in pairs also independently created paper-based multimodal texts about how the senses worked, with a written explanation and an image that illustrated the writing. The purpose of this task was to reinforce the learning of the written mode, due to the teachers concerns about the education system's testing requirements, which includes students in year 3 and year 5 writing a text, not creating a multimodal text.

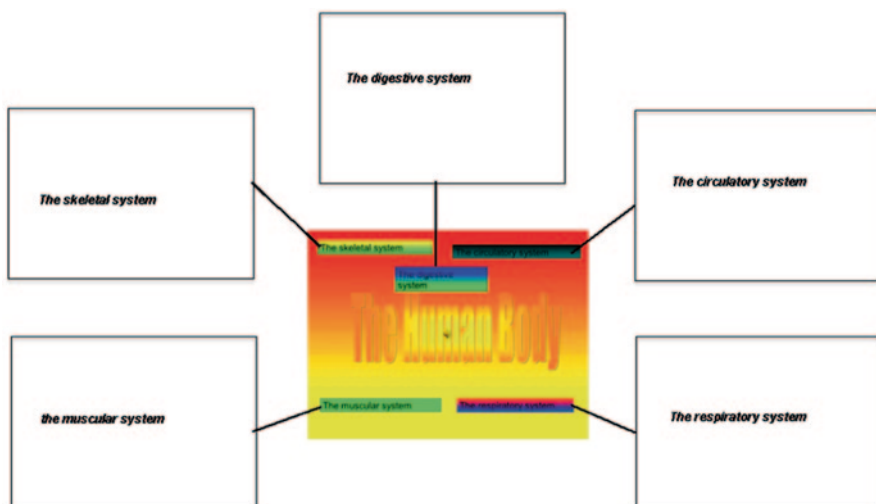


Fig. 62.5 Mock-up of the human body hypertext PowerPoint™

62.4 Conclusion

In this chapter, I have presented how the teachers and students in three classes in an inner urban city school orchestrated meanings in complex ways during the teaching and learning of literacy within a content area. They engaged in doing semiotic work (Kress 2003) using a wide range of modes. The teachers scaffolded the students' learning about the affordances of the written (linguistic), visual, and audio modes to different degrees while also providing opportunities to learn about the semiotic resources (tools) of the technology to create multimodal texts. Students were given opportunities to discuss the construction of the multimodal texts they were expected to create (Mills 2006).

The learning about the written mode was given more prominence across the action research cycles of the project for two reasons. First, the teachers were familiar with implementing a genre-based curriculum cycle (Martin 1999; Murray and Zammit 1992) in the teaching and learning of a written text in context of learning about a content area. They were moving outside their comfort zone in their pedagogy, curriculum, and assessment by including teaching and learning of multimodal texts. They used the NLE curriculum and pedagogy framework to consider what process, mode, and medium (Zammit 2010) they currently covered and what they wanted to change in their practice—creating, multimodal, electronic texts, and what would need explicit teaching. It was important for the process of change that the teachers felt comfortable while 'taking risks' in their teaching (Hagood 2012). In the process, they were learning multimodal semiotics, in particular how to analyse the purpose and construction of multimodal texts and turn that knowledge into learning opportunities for their students. Both teachers and students were simultaneously engaged in learning how to convey meaning using more than the written mode and how to use technology to enable the creation of the multimodal texts. As Renee stated:

I've learnt a lot about technology. It's opened my eyes to what we could do... What other semiotic systems we could use. And Now I see the need to understand the codes of multimodal texts in the same way we do with written texts.

The second reason the written mode was given more emphasis in teaching was the pressure the teachers felt for preparing students for undertaking the writing component of the system-wide test for year 3 and year 5 students: the NSW Basic Skills Test.³ So while attending to the multimodal, they ensured students learned about creating extended written text as well, particularly in the second action research cycle. For the year 4/5 endangered species documentaries, the written information report was essential for the production of the text. In contrast, the year 3 and year 3/4 human body hypertexts, while requiring understanding of written explanations, focused more on the multimodal representation of an explanation. So students also produced a paper-based multimodal explanation: a written explanation with a visual

³ The NSW Basic Skills Test is similar to the current National Assessment Program on Literacy and Numeracy (NAPLAN) undertaken Australia wide in May by years 3, 5, 7, and 9 students. It also includes a writing component.

diagram as an illustration. Similar to other studies, the system requirements influenced curricular decisions (Kedersha McClay 2002). Renee commented: 'That's how students will be assessed, not through creating multimodal texts'. System-based assessment practices have not kept up with the changes to text production occurring in schools, which is a limiting factor that needs to be addressed. New learning requires a review of assessment practices (Kalanztis et al. 2003). Perhaps the situation will change with the inclusion of multimodality in curricula (Australian Curriculum Assessment and Reporting Authority (ACARA) 2012; Dalton 2012).

The multimodal texts students created used the affordances of the written, visual, and audio modes. Their selections were limited to the available resources: the actual visual and audio resources, and their knowledge of the affordances of the different modes. The fact that the texts they created were designed to represent their learning meant that the semiotic work had a communicative focus in relation to the choice of resources from the modes. Not only were they learning the content, they developed their repertoire of literacy practices.

While their texts were assessed as successful, it would be interesting to follow up with future work on the explicit teaching of the grammar of visual design (Callow 1999; Kress and van Leeuwen 2006): angles, shots, framing, salience, colour, etc., and how knowledge of these semiotic resources influence composition of students' multimodal texts. In addition, further work on how audio, such as soundtrack selections, impact on meaning would be beneficial.

Communication is no longer the domain of the linguistic mode alone. The concept of writing has changed (Yancey 2009). Students are designing, creating, and composing texts using a greater range of modes, enabled and empowered by developments in technology. With the introduction of tablets into primary classrooms, the potential for creating multimodal texts has expanded with numerous apps available to use. It will be important not only to investigate the use of tablets in primary schools for combining written, visual, and audio modes, but also offer the opportunity to investigate the addition of gesture and movement to the multimodal ensemble, through the use of swiping and quick response (QR) codes embedded in a multimodal text.

Learning about, working with, and creating multimodal texts can also offer those students, who find traditional literacy challenging, because of the focus on written texts, an opportunity to demonstrate other strengths while reinforcing print-based skills (Edwards-Groves 2011; McDowall 2011). Change to the literacy practices of a classroom, similar to those I have presented in this chapter, may influence students turned off to education an avenue to be successful, view themselves as literate, and see education as a place for them (Zammit 2011).

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Katina Zammit is a lecturer in English in the School of Education, University of Western Sydney, for primary and early childhood degrees. Katina has an extensive career in education, as a primary school teacher, a literacy consultant in Metropolitan East Disadvantaged Schools Program, as an adviser on state and national projects, and as an academic. She works closely with teachers in schools in co-researching projects to better meet the literacy needs of students. Her research focuses on (i) the use of semiotics, such as systemic functional theory (SFT) to inform praxis and the understanding of texts in context; (ii) curriculum development in schools and higher education; and (iii) literacy pedagogy, with a focus on multiliteracies/new literacies and the engagement of students