

Chapter 2

Life



The central moment of consciousness is precisely its theoretical aspect, which is, in itself, praxis.

(Prodi 1974: 197)

Abstract In this chapter, we will present the main elements of Giorgio Prodi's life, and we will reconstruct the entire and complex picture of Prodi as an intellectual: a scientist, a philosopher, a novelist.

Keywords Giorgio Prodi · Scientist · Philosopher · Writer

Giorgio Prodi was born in Scandiano (near Reggio Emilia, in Italy) on the 12th of August 1928, son of Mario, a civil engineer, and Enrichetta Franzoni, an elementary school teacher. The family had humble farming origins, with Mario being the first to get any proper education. Giorgio's eclectic knowledge, his intellectual freedom, and his wide-ranging readings will exercise a great influence on his younger siblings, Fosca (a mathematician), Paolo (a historian of modernity), Quintilio (an architect), Vittorio (a physicist), Romano (the most well-known of the siblings, elected twice as Italian prime minister and president of the European Community between 1999 and 2004), and Franco (an atmospheric physicist). In 1934, the Prodi family moved to Reggio Emilia, where Mario got a job with the provincial administration. Giorgio studied at the *Liceo* Ludovico Ariosto and then enrolled in the Faculty of Medicine and Surgery at Modena University. In his fifth year of studies, he transferred to the University of Bologna where, in 1952, he got his degree in medicine. After that, from 1953 to 1961, he served as *assistente straordinario* of general pathology under Giovanni Favilli. From 1959 to 1961, he worked in Paris, at the *Institut du Radium* (today part of the *Institut Curie*). After having again served as assistant of general pathology from 1956 to 1966, he was eventually called to the second *cattedra* of general pathology at the University of Bologna in 1966, and in 1968, he became Italy's first *professore straordinario* of experimental oncology. He held this position from 1971 to 1978, and in this period (in 1972 to be precise), he

created the first institute of oncological research in an Italian university. From November 1978, he was *professore ordinario* of oncology, and in 1984, he obtained a *Laurea* in chemistry at the University of Bologna. There he also created, and served as a director of, an Interdepartmental Center of Cancer Research. Prodi got married twice: first with Anna Maria Nigro—with whom he had a son, Claudio—and then with Anna Gasperi Campani, with whom he had another son, Enrico Emanuele.

Prodi was an intellectual with an extremely wide-ranging cultural interests, who wrote scientific, philosophical, and literary works. He represents, as Umberto Eco celebrated him after his death, a “challenge to the myth of the two cultures” (Eco 1989: 166)—a particularly significant challenge in the Italian cultural context, where this dualism is still strong and persistent. Indeed, Prodi is one of very few figures whose intellectual work science and philosophical inspiration coexisted—nonetheless within an overarching acknowledgement of the humanistic dimension of knowledge (according to the testimony of relatives, and of Eco himself, Prodi would “dedicate a few hours every day to a relaxed listening of classical music” [Eco 1989: 166]). The point of convergence of Prodi’s scientific and philosophical-literary activity is probably to be located in his notion of “knowledge” (although Prodi himself insisted that his three “interests”—oncology, philosophy, and narrative—are “pursued separately, paying great care not to merge them together” (Chieco 2011: 611). As Prodi put it, “I believe that science is first of all a theoretical activity that gives us more knowledge about the world” (De Nigris 1981: 27). For Prodi, the principal objective of scientific research is not practical action: science is first of all theoretical knowledge. From this point of view, for Prodi, there is no clear-cut separation between science and philosophy, nor between science and literature. For this reason, Prodi believes that science should be distinguished from its potential technological outcomes: “it seems to me that today”, he bemoans, “one of the most negative aspects of modern culture is the belief that science can only be measured through its results” (De Nigris 1981: 17).

Only when disentangled from technology can science be brought back in contact with philosophy and literature. The scientist—like the philosopher and the novelist—does not produce things or goods, but ways of knowing and seeing the world, which can then be turned into actions or practical projects. For this reason, Prodi considered his literary and philosophical activity to be on the same level as his scientific work: he moved seamlessly between his role as an oncologist, as a philosopher, as a chemist, and as a novelist, convinced that there is no single way of knowing the world. With Prodi the overcoming of the “two-cultures” split is not achieved through the demotion of philosophical and literary knowledge to the rank of pseudo-knowledge. When asked to define his profession, he would reply: “I am an oncologist, a researcher”, but, immediately after, he would add, regarding literature, “let’s say that, for me, it is not just a hobby” (Donati 1985: 16). It is within this general frame that we should place his contributions to biosemiotics,¹ in itself

¹According to Sebeok, the contribution of Prodi to the development of biosemiotic “did not just happen in a simple linear progression but surged by fits and starts as a convoluted affair, winding

something of an oxymoron, at least according to traditional scientific distinctions. Biosemiotics studies biological phenomena *qua* semiotic phenomena, that is to say it merges two spheres that have long been considered separate, the life sciences and the study of culture (of language and of semiosis): Prodi's entire work moves in this direction, attempting to overcome disciplinary oppositions and demarcations. So, Prodi remains a peculiar figure who, precisely because of the multiplicity of his interests, puzzled—and still puzzles—his readers. It is no coincidence that his work has been so well received by Thomas Sebeok, another eclectic thinker with varied interests. Sebeok thus recalls an encounter with Thure von Uexküll, in Freiburg, accompanied by Prodi:

Prodi, a distinguished oncologist by profession, a novelist, and a prolific contributor to general bio- and endosemiotics — he favored the comprehensive expression “natural semiotics” — had forged, without explicit reference to any other previous or contemporary thinker, still another variant of this sprouting, or re-emerging domain. Prodi was another remarkably creative individual. While the three of us were together in Freiburg (with Thure's sister, Dana, home from Finland, “keeping house”), we conducted an intensive week-long open-ended seminar, so to speak, on the practical and conceivable ins and outs of biosemiotics [...] Our intensive triadic “brainstorming” led directly to the series of pivotal seminars held annually in the late 1980s and early 1990s in Glottertal, on the outskirts of Freiburg. These thought-provoking international get-togethers were held at the Glotterbad Clinic for Rehabilitative Medicine, under Thure's overall aegis and the superintendence of a student and associate of his, Jorg M. Herrman, M.D., its Director. They were attended by many German, Swiss, and other physicians, and were on occasion attended by the biologists Jesper Hoffmeyer (of Denmark), and Kull, now two of the leading figures of the biosemiotics movement. (Sebeok 1998: 34–5)

As I have adumbrated in my introduction, the other pillar of Prodi's intellectual work—beside that of “knowledge” (a knowledge that is also action)—was that of “continuity”, an idea to which Prodi gives a very original interpretation. On the one hand, each natural phenomenon is continuous with (and therefore dependent upon) those that preceded it; but, on the other, that same phenomenon modifies the presuppositions that made its development possible—the effect retroactively acts upon its cause. The “continuity” at play here is a to and fro: from the before to the after and from the after to the before. This represents an extremely original element of Prodi's scientific and philosophical work, since it undermines univocal and unilateral notions of causation in the realm of living organisms. This implies, for example, that the division between structure and function, according to Prodi, is biologically meaningless. Take the example of language, a natural phenomenon that Prodi never tired of analysing: “man adapted to language, but he also constructed language [...] it is a snake eating its own tail” (Prodi 1987a, b: 47). Prodi's radical anti-dualism (that however never slides, as often occurs, towards a materialist monism) leads him to privilege the relation over the *relata*. It is not a matter of privileging structure over

its long but episodic way through at least three successive twentieth-century iterations: I register these, respectively, with the names of J. von Uexküll [1864–1944], Heini Hediger [1908–1992], and Giorgio Prodi [1928–1987]” (Sebeok 2001: 63).

function, nor the other way around. Meaning—at once biological and semiotic²—is that which mediates between the organism and its environment, between the subject and the object, between structure and function. Prodi's philosophy is developed from these two grounding ideas: knowledge and continuity.

In his brief but extremely intense philosophical activity, Prodi developed a genuine "system": he first wrote a general theory of science (*La scienza, il potere, la critica*, 1974) and then a theory of semiosis (*Le basi materiali della significazione*, 1977). He subsequently elaborated a theory—at once phylogenetic and ontogenetic—of the development of various ways of knowing and thinking (*Storia naturale della logica*, 1982), an aesthetics (*L'uso estetico del linguaggio*, 1983a), and an ethics (*Alle radici del comportamento morale*, 1987a). As he observed: "these five books are really five chapters of a unitary argument" (Prodi 1986: 122). The last of this series of books (*Gli artifici della ragione*, 1987b) is an encyclopaedia of sorts, recapitulating in an organic and articulated manner the whole of his philosophical work. His literary works can also be placed in this general framework: *Il neutrone Borghese* (a collection of short stories, 1980) is an ironic and disenchanted description of the omnipresent dangers of fundamentalism, a deadly pitfall for any kind of free and original thought. In the short stories collected in *Cane di Pavlov*, Prodi instead explores that state—between oneiric and allegorical—that precedes knowledge and makes its development possible. The short story from which the collection takes its name assumes the point of view of the dog, overturning the standard perspective: it is not Pavlov who controls the dog's behaviour but rather it's the dog who manipulates and guides him, with intelligence and patience. Here we can see the conjunction of science and literature: the scientist, like the novelist, is he or she who makes us see the world in a new and unexpected way. *Lazzaro* (1985) is a *Bildungsroman*, inspired to the figure of Lazzaro Spallanzani, the scientist and humanist who was born in a palace not far from the Prodi's family house. It is based on one of Prodi's favourite questions: how are things formed? How are they born, transformed, and how do they die? *Lazzaro* is the story of a man who matures a passion for knowledge and science and—as it was observed by Elvio Guagnini (2009)—it is also an autobiography of sorts. Playing a central role in the posthumously published collections of short stories *Dopo il mar rosso* (1990, with illustrations by Cécile Muhlstein) and *Le quattro fasi del giorno* (1987), and particularly in the main story from the former collection, there is the pursuit of something that would come after—as unthinkable and unimaginable that might be—the process of knowledge (that which in the *Uso estetico del linguaggio* Prodi calls, as we will see, the space of "darkness"; *buio* in Italian). In his very last literary work, *Il profeta* (posthumously published in 1992), the lives of two characters are intertwined: a fake Jesus (the prophet of the title) and the oncologist Trequattordici (an explicitly autobiographical character)—the former uses God for his own purposes, his actions having nothing sacred about them; the latter "is religious in every aspect of his

²In this book I will observe this terminological distinction: "semiotic", as an adjective, refers to the discipline of Semiotics. On the other hand, the adjective "semiosis" refers to the phenomena instantiating a semiosis or a process of signification.

being, but he is without God (and this is no minor absence)” as Prodi writes in the novel. This last claim summarizes the meaning of his entire work, characterized by a passionate epistemological and ethical engagement—all the more serious the less it enjoys a transcendent warranty—accompanied by an implicit “philosophical” conception of life which Prodi, as a scientist and a philosopher, sees as an unstoppable process of translation, construction of new complexes, and continuous transformation (all his narrative works have been republished in 2009 as *L’opera narrativa di Giorgio Prodi*; see Longo 2011). Prodi died of cancer on the 4th of December, 1987, in Bologna. In 1989 he was posthumously awarded a golden medal for scientific merits from the AIRC (the Italian Association for Cancer Research).

Among Prodi’s numerous medical-scientific publications, we should mention *Trattato di patologia generale*, written with his mentor G. Favilli (1958 and 1977), *La biologia dei tumori* (1977), and finally *Oncologia generale* (1985). He also published over 200 articles in scientific journals. Among his main research topics, there are the mechanisms of chemical carcinogenesis and of mutagenesis (“In vivo interaction of urethane with nucleic acids and proteins”, with P. Rocchi and S. Grilli, in *Cancer Research*, 1970, 30(12): 2887–2892), the role of the response of cell-mediated immunity in tumours (“Selective thymus-derived cell enrichment in the rat spleen as a result of immunodepression by urethane”, with A. Di Marco, C. Franceschi, *Cancer Research*, 1972, 32(7): 1569–1573), and the molecular mechanisms of metastasis (“Clones with different metastatic capacity and variant selection during metastasis: a problematic relationship”, with P. Nanni, C. De Giovanni, P.L. Lollini, G. Nicoletti, *Journal of the National Cancer Institute*, 1986, 76(1): 87–93). For an overall introduction to Prodi as an intellectual, see G. Mazzoli and S. Zucal (eds.) *Giorgio Prodi e l’avventura del pensare poliedrico*, a special issue of the magazine *Il Margine* (1989), which contains also a bibliography of Prodi’s scientific works. Giorgio Prodi was a renaissance man, a scientist who also worked as a philosopher and as a writer, or a writer who also worked as a scientist and as a philosopher—Prodi displays the same critical engagement in each of his intellectual productions. To this fundamental coherence of his thought, we should add the fact that Giorgio Prodi was unlike other philosophers particularly considering those whom today we consider philosophers: those who, in order to claim mastery of a “scientific method”, copy the style of scientific papers and fill their writing with references and citations. Prodi, on the other hand, hardly ever cites another philosopher³—yet he was not a thinker working in isolation. For example, in his 1988a essay “Material Bases of Signification”, one of the very few of his articles accessible for an international audience, Prodi (as Sebeok observes) only cites Frege and Ogden and Richards’ *The Meaning of Meaning*. Although this, of course, does

³“Another eccentricity of Prodi is his avoidance of references to the works of others. For example, in his English article, although dealing with intrinsically biosemiotic issues, viz. of “natural semiology” (1988a: 206), he cites only Frege and the 1923 edition of Ogden and Richards. While this composition style perhaps adumbrates Prodi’s striking originality, it fails to align him with any predecessors or successors in semiotics, so his untutored readers may flounder for lack of familiar signposts” (Sebeok 2001: 68).

not mean that his semiotic theory is solely inspired by these authors, Frege is the logician who first distinguished between “sense” and “meaning” (or “reference”), a distinction that is systematized in the famous semiotic triangle (Ogden and Richards 1923: 11). Without the semiotic triangle, there is no meaning, and without meaning, there is no semiosis but only causal connections: this is why these two sources are essential for any project attempting to develop a theory of biosemiotics. However, Prodi generally follows *his own* path, precisely because he doesn’t feel the need to demonstrate that he is a philosopher—he simply *is* a philosopher—“Giorgio Prodi [...] was a maverick: a prolific physician and experimental oncologist by profession, a novelist by avocation, but also an intermittent if resolute contributor to biosemiotics” (Sebeok 2001: 67). In a relevant passage from his Preface to *La scienza, il potere, la critica*, Prodi writes that:

the standard way to construct an argument is now “by proxy of a bibliography”. Every discourse becomes an academic game of chess, a system of oblique cultural references. The discourse in this book wants to be more direct. Practitioners of philosophy will recognize the general frame, the major positive references (Darwin, Freud, Marx, Dewey) and the main negative ones (Hegel, Husserl, Bergson), as well as the closest and more concrete sources of inspiration (Piaget, Russell, Wittgenstein, Morris, Carnap, and Chomsky, to cite but a few). They will also recognise various -isms: empiricism, structuralism, idealism, irrationalism, and so on. Those who are not philosophically proficient will follow my discourse with greater ease, not bound by the intellectual complacency of being able to recognize the characters behind the text. (Prodi 1974: 6)

What was Prodi’s legacy, in Italy as well as abroad? It is necessary to consider that he worked during a period of profound changes in the Italian cultural and political landscape and approached themes—like that of the natural basis of knowledge—that were extraneous to the dominant philosophical trends of the time: historicism, Marxism, structuralism, and phenomenology. Moreover, Prodi was not a “specialist”, not in philosophy nor in semiotics, and those who are able to move between different disciplinary fields are viewed—then as today and not only in Italy—with suspicion. This diffidence has grown with time, especially so with the progressive specialization and fragmentation of the human sciences. Contemporary scientists and philosophers are, typically, specialists in *one* disciplinary sector. Although it is customary to pay lip service to “interdisciplinarity”, this is never actually appreciated, and even less it is ever put in practice. Prodi was an oncologist, a doctor-scientist, but also a philosopher while also being a novelist. From this point of view, he was far too different from the average professional philosopher or scientist, and it is all too natural that he was met, then and now, with suspicion or indifference.⁴ Prodi was well aware of this. As he comments in a 1986 interview:

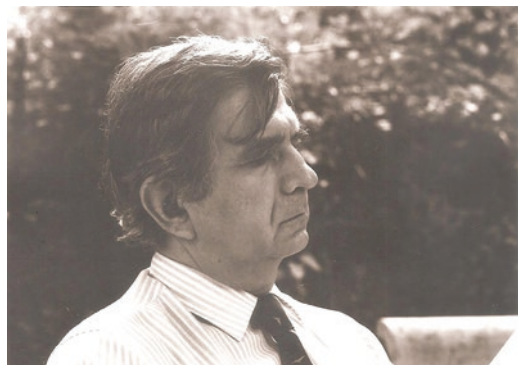
⁴One of the few exceptions to this silence regarding Prodi’s work is Pierpaolo Antonello’s fine book *Contro il materialismo. Le “due culture” in Italia: bilancio di un secolo* (2012, see in particular pp. 206–8 and 302), reconstructing the history of “materialism” in the twentieth-century Italian culture. Antonello associates Prodi to another rather forgotten figure of Italian post-war philosophy, Ferruccio Rossi Landi (1992). For Antonello, Rossi Landi and Prodi proposed a “materialistic semiotics” that was neglected during their lifetimes. Indeed, Prodi’s case is exemplary still today: his “sophisticated” materialism, as I adumbrated above, has little in common

[my monograph *Le basi materiali della significazione*] has been read with interest by a number of attentive semiologists, and well received by a few epistemologists but, overall, the Italian philosophical environment — to which the book was explicitly addressed — was, and still is, profoundly resistant to these kinds of problems. [...] Why? I think there's primarily two reasons. First, disciplinary corporativism (not only by philosophers, of course): it seems that, in our context, to pay attention to a philosophy book written by a non-philosopher would be a reckless enterprise. Secondly, our theorists tend to busy themselves only with “authorized” — so to speak — topics, possibly non-philosophical but para-philosophical (the death of philosophy, negative thought, weak thought, strong thought, half-and-half thought, the sociology of intellectuals within their institutions, and so on). At times, when I think about philosophy, influenced by those youthful suggestions one always remains faithful to, it appears to me as an old lady, of noble lineage but now in dire straits and rather hungry, forsaken by her own sons. There is nothing wrong if distant relatives (perhaps biologists) want to take care of her, keep her alive and pay their respects. (Prodi 1986: 123)



1. China 1956

with, for example, the implicit or explicit materialism of contemporary neuroscience which, criticizing Cartesian dualism, gets rid of all semiotic phenomena and of meaning in general. Prodi was an untimely thinker for the philosophies of the subject and of culture of the second half of the twentieth century. For other, rare exceptions, see Caputo (1990) and Zorzella and Cappi (2012).



2. 20th July 1985



3. At a oncological congress in Bari, June 1980



4. While receiving the Sila Prize, 1986



5. Prodi giving a lecture on "Philosophy of Knowledge and Biology", University of Udine 1983