Umwelt and Language

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Abstract It is often asserted that the existence of human language sets us apart from non-humans, and makes us incomparably special. And indeed human language does make our Umwelt (Jakob von Uexküll), our lifeworld, uniquely open-ended. However, by committing what I term *the anthropocentric mistake*, i.e. falsely assuming that all true reality is linguistic, we close in on ourselves and our language-derived practices, and as a result we lose sight of much that truly matters (including a proper understanding of our human nature). Like Sebeok and Hoffmeyer I hold that language is a modeling system, but unlike them I argue that language is not external to the Umwelt, but internal to it. Language changes the human Umwelt not by escaping or sidelining it, but by fundamentally transforming it. In consequence supra-linguistic phenomena as well are modeled as internal to the human Umwelt. The Umwelt model presented is termed *the tripartite Umwelt model*, and includes three aspects of Umwelt: the *core* Umwelt, the *mediated* Umwelt and the *conceptual* Umwelt. Linguistic practices are placed within the latter, but it is furthermore claimed that a number of animals too have conceptual Umwelten, which are said to be characterized by predicative reasoning, the habitual, mental attribution of specific features to someone or something. The activity of languaging is presented as more-than-linguistic, with reference to the distributed language perspective. Given all the dark matter underpinning and surrounding verbal practices, a foray into the hinterland of language is called for. A section on the genesis and modalities of language addresses the origin and evolution of language, acquisition of language in childhood and a simple typology of the various linguistic modalities of the human Umwelt. The concluding section treats Ivar Puura's notion *semiocide*, and the question: how can we *language* as if nature mattered?

Keywords The anthropocentric mistake • Dark cognitive matter • Dark cultural matter • Distributed language • First-order languaging • Genesis of language • Perception • Semiocide • Umwelt theory

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[Man] knows that there are in the soul tints more bewildering, more numberless, and more nameless than the colours of an autumn forest [...] Yet he seriously believes that these things can every one of them, in all their tones and semi-tones, in all their blends and unions, be accurately represented by an arbitrary system of grunts and squeals. He believes that an ordinary civilized stockbroker can really produce out of his own inside noises which denote all the mysteries of memory and all the agonies of desire.

(Chesterton 1904, p. 88)

Introduction

[W]e move in science into an unknown language with unknown grammar and try, with a dictionary in our hands, to compose grammatically correct sentences.

(Markoš 2002, p. 180)

Language, writes Marcello Barbieri, is "the quintessential example of semiosis".[1] According to Martin Heidegger, Man is not simply a living creature who possesses language along with other capacities – no, "language is the house of Being in which man ek-sists [**sic** – 'stands out'] by dwelling, in that he belongs to the truth of Being, guarding it".[2] In Jesper Hoffmeyer's words, our species' evolutionary acquisition of language implied a "switch from an *umwelt* containing very few transformation rules to a grammatical *umwelt*".[3] We are fundamentally linguistic creatures. "Humans", says Thomas A. Sebeok, "have evolved a way of modeling *their* universe in a way that not only echoes 'what is out there' but which can, additionally, dream up a potentially infinite number of *possible worlds*".[4] Edmund Husserl was of a similar opinion: "Clearly it is only through language and its far-reaching documentations, as possible communications, that the horizon of civilization can be an open and endless one, as it always is for men".[5]

And so the stage is set. To most people, language largely constitutes reality. And yet language is free to evolve at the inkling of an eye or by the hunch of a confused mind. Without a doubt, language does in many senses open the world up to us – but it also conditions and constrains us. As David Abram writes, "[e]very attempt to definitively say *what language is* is subject to a curious limitation. For the only medium with which we can define language is language itself. We are therefore unable to circumscribe the whole of language within our definition".[6]

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[1] Barbieri 2012b, p. 450.

[2] Heidegger 1977, p. 213.

[3] Hoffmeyer 1993 [1996, p. 102].

[4] Sebeok 1987, p. 347.

[5] Husserl 1936–1939 [1970, p. 358].

[6] Abram 1997, p. 73.

A second caveat is also required: there are phenomena that cannot (best) be described in a scientific language. The academic genre is given to objectification and generalization, and might thus not be capable of capturing all phenomena which are not easily objectifiable. This reminder is no less important given the implicit topic matter of this text, *subjective experience*. The reader should therefore keep in mind warnings à la those of Gabriel Marcel[7] with regard to the pitfalls of methods of objectification. By objectifying subjective phenomena, and describing them in scholarly language, we convert them into another genre, and consequently a different mode of being – and this scholarly mode of being is not in all respects true and faithful to the phenomena. In particular, the detachment necessitated by abstract analysis is (if it were to become our *only* mode of being) irreconcilable with full-fledged participation as incarnated, engaged beings on par with other creatures.

"I *Language*, Therefore I Model"

> *Sultan knows: Now one is supposed to think. That is what the bananas up there are about. The bananas are there to make one think, to spur one to the limits of one's thinking. But what must one think? One thinks: Why is he starving me? One thinks: What have I done? Why has he stopped liking me? One thinks: Why does he not want these crates any more? But none of these is the right thought. Even a more complicated thought – for instance: What is wrong with him, what misconception does he have of me, that leads him to believe it is easier for me to reach a banana hanging from a wire than to pick up a banana from the floor? – is wrong. The right thought to think is: How does one use the crates to reach the bananas?*

(Coetzee 1999, p. 28)

Uexküll and Language

Jakob von Uexküll (1864–1944), notes Han-Liang Chang, "rarely referred to language communication".[8] On one of the rare occasions where he did refer to language, in a letter to Heinrich Junker dated 29th March 1937, Uexküll said that "[l]inguistics itself is rather remote from my area", though he complimented Junker for being "on the right path by making it into a biological science".[9] The German-Baltic biologist further noted: "Language interests me mainly as a means of communication between man and animals, and as a means of communication between animals themselves".[10]

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[7] Marcel 1962.

[8] Chang 2009, p. 170.

[9] *Ibid.*, referring to Uexküll 1981 [1987, p. 176].

[10] *Ibid.*

In a 1917 article entitled "Darwin and the English Morality",[11] Uexküll comments on the difference that human language makes in our studies of animals and human beings.[12]

> It is clear that the mechanical effects of the physical and chemical forces alone do not lead us to insight about animal life, and, furthermore, that knowledge of these factors requires that the builder or operation manager affects the body machine.
>
> These factors have been known since ancient times – they were called "drives" or urges and distinctions were made between food drive and sex drive, one spoke about self-preservation drive, and in animal communities or animal states [*Tierstaaten*] the social drives were detected.
>
> As long as the topic is processes in the animal world, one must be satisfied with the identification of such drives, which one treats as given factors of nature and seeks to investigate objectively.
>
> But if the topic is humans, whose language we understand and whose utterances resemble our own – then we are capable of providing part of the drives with sensory content that makes psychological understanding possible.[13]

Is Language External or Internal to the Umwelt?

The reality of signs, and of Umwelten, entails that living beings are enmeshed in worlds of meaningful, significant phenomena and occurrences. Barbieri[14] and several other biosemioticians have suggested that even though there are examples of symbolic activity in animals, "[a] systematic use of symbols at the basis of our behaviour is indeed what divides human language from animal communication". As Sebeok believed and Hoffmeyer thinks, I too think of language as being a species-specific human capability that has tremendous impact on the character of human affairs and of the human being. However, as we shall see, I think about language in terms of *the conceptual Umwelt* – an "outer" yet, as a rule, thoroughly integrated layer of the Umwelt. Language, then, is intimately tied to perception – language *frames* perception, and simultaneously language is *grounded in* (core) perception – and, indeed, in a sense language *is* perception (as scholars within ecological linguistics freely admit, language is a perception system).

Sebeok and Hoffmeyer both see language as transcending the human Umwelt. Particularly relevant here is Sebeok's view on language as a secondary modelling system, whereas the Umwelt is the primary modelling system.[15] The distinction between primary and secondary modelling systems derives from the Tartu-Moscow

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[11] Uexküll 2013, p. 454; cf. Uexküll 1917.

[12] Cf. Uexküll 1917, pp. 219–220.

[13] Cf. also the passage corresponding to *ibid.*, p. 236, where Uexküll addresses the difference, in his eyes, between English language and German language with regard to propagation of influence: "Every English word comes from an English heart".

[14] Barbieri 2012b, p. 449.

[15] Or more specifically, as Barbieri points out: "The primary modelling system consists […] of two types of models, one that represents the environment [the Umwelt] and one that carries information about the body [the Innenwelt]" (Barbieri 2012a, p. 40).

school[16]; however, in that tradition Juri Lotman[17] and others regarded language as the primary modeling system. This was because it had a central position in culture, and so, any secondary modeling system was supra-linguistic or, in other terms, language-derived. While Sebeok positions the Umwelt as fundamental, he simultaneously positions language as external to it. Admittedly, he saw "organism-environment interaction (i.e. species-specific *Umwelt*) as a crucial component of the growth of language in the individual"[18] – but he nevertheless asserted that language ultimately escapes the Umwelt, a view also adopted by Hoffmeyer.

The claim that language is a modeling system has an important implication, namely that language is not first and foremost (and was not originally) a verbal communication system. "Language", wrote Thomas Sebeok and Marcel Danesi, "is, by definition, a secondary cohesive modelling system providing humans with the resources for extending primary forms ad infinitum".[19] In Prisca Augustyn's words, the Umwelt, "in Sebeok's working definition, 'is a model generated by the organism' […] to which language adds a secondary, cognitive dimension".[20] While language transcends the Umwelt, it also gives it depth or detail. Sebeok thought that language initially above all had served "the cognitive function of modeling, and, as the philosopher Popper as well as the linguist Chomsky have likewise insisted […], not at all for the message swapping function of communication. The latter was routinely carried on by nonverbal means, as in all animals, and as it continues to be in the context of most human interactions today".[21]

The Tripartite Umwelt Model

Figure 1 shows the tripartite model of the human Umwelt.[22] In addition to the three aspects of Umwelt, the illustration displays Uexküll's four main categories of functional cycles,[23] two of them in generalized form.

By *core Umwelt*, I mean the aspect of Umwelt within which one interacts directly and immediately with other creatures or Umwelt objects, in (to use a figure of

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[16] Zaliznjak et al. 1977; cf. Chang 2009, p. 172.

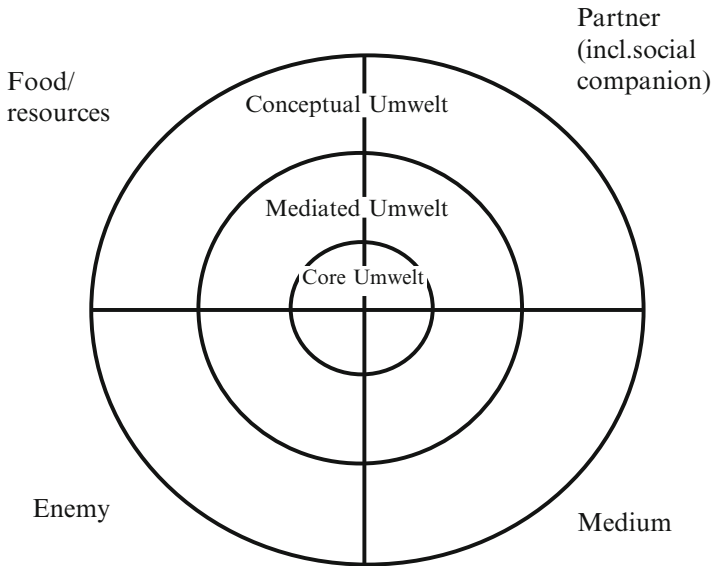[17] Lotman 1991.

[18] Augustyn 2013, p. 98.

[19] Sebeok and Danesi 2000, p. 108.

[20] Augustyn 2015, p. 180.

[21] Sebeok 1991, p. 334.

[22] A precursor to this model, which is the invention of the author, is the notions *conceptual world* and *conceptualized Umwelt experience* (cf. Tønnessen 2003, p. 290), representing two of seven distinctive human features. "The conceptual world", it is stated, "has its roots in sensory perception, and its concepts are meaningful only by reference – direct or indirect – to concrete objects of perception (cf. Uexküll 1928, pp. 334–340)" (*Ibid.*).

[23] Cf. Uexküll 1928, p. 101.

Partner
(incl.social
companion)

Food/
resources

Conceptual Umwelt

Mediated Umwelt

Core Umwelt

Enemy

Medium

THE HUMAN UMWELT

Fig. 1 The tripartite model of the human Umwelt

speech) "face-to-face" encounters.[24] By *mediated Umwelt*, I mean the aspect of Umwelt in which Umwelt objects are encountered indirectly by way of some mediation (memory, fantasy, anticipation, modern media, etc.). I suggest that this particular aspect of Umwelt can generally be associated with Uexküll's notion of the *Suchbild*, the *search image.*[25] By *conceptual Umwelt*, I mean the aspect of Umwelt in which one navigates among Umwelt objects in terms of predicative reasoning in general or human language in particular. Conceptual Umwelt objects are in the latter case Umwelt objects whose functional meaning is imprinted linguistically. Though the conceptual Umwelt is particularly central in the human case (to the point where we confuse linguistic reality with reality as such), a number of "higher" animals qualify for being attributed conceptual Umwelten as well, in so far as they are capable of conducting predicative reasoning.[26] I theorise that these three layers

[24] However, in all normal instances, i.e. whenever the perceiver is capable of having memories or at least is capable of anticipating events, our actual encounters with others involve mediation, and thus the mediated Umwelt, as well. Only in exceptional cases, in consequence, are "face-to-face" encounters *solely* located within the core Umwelt.

[25] Cf. Uexküll 2010, pp. 113–118. In the human context, the mediated aspect of Umwelt arguably dominates in modern culture, as reflected in cultural practices including day-long interaction with screens.

[26] Note that by attributing a conceptual Umwelt to an animal one does not attribute language to it. The question "Do animals have language?" is as controversial as the related question "Is Man an animal, yes or no?" The answers given often appear to be derived from emotion and identity rather

interact dynamically so that one or two of the layers are occasionally temporarily suspended (in other words, human perception is subsequently focused – more or less exclusively – on different Umwelt layers).

The conceptual Umwelt is the most novel in evolutionary terms and, thus, corresponds broadly to what Sebeok characterised as humans' secondary modelling system. But as we have seen, both Sebeok and Hoffmeyer think of human language as being external to the human Umwelt. For both of them the Umwelt represents the "animal" side of the human creature, whereas human culture can only be understood in terms of something (particularly language) that escapes the Umwelt. In my perspective, human language is a special case of more widespread systems of predicative reasoning, and enmeshed in the Umwelt that is our lifeworld, our phenomenal world. Language is *internal* to the Umwelt, i.e. *part* of the Umwelt, and there is a dynamic relationship between the conceptual side of Umwelt and the other aspects of Umwelt. This situates the Umwelt as a rich notion capable of serving as theoretical and methodological foundation for studies of the world of the living and the world of human affairs alike (for example, the tripartite model of the Umwelt may be applied as an ethogram in ethology, or for similar mapping purposes in ethnographic work).

The Role of Language and Predicative Reasoning in the Umwelt

While Sebeok held that supra-linguistic phenomena were constitutive of a tertiary modeling system, my assertion is rather that the impact of language on the human Umwelt is "thrown back in" and saturates other aspects of Umwelt. This concerns language-derived practices and far more. In short: the practice of languaging changes the human Umwelt not by escaping or sidelining it, but by fundamentally transforming it. In this process of recalibration, the core Umwelt may become "background" or otherwise loose in meaning.

Taking one step back, I will now explain what I mean by predicative reasoning, or the criterion for being endowed with a conceptual Umwelt. By *predicative reasoning*, I mean the mental act of ascribing a specific feature to someone or something. Animals that ascribe specific features to other living beings or objects in this manner are arguably capable of carrying out a fundamental form of logical reasoning. They thereby exercise a capacity which is indicative of rational judgment, and thus proto-linguistic capacities. An animal's capacity for predicative reasoning can be more or less advanced and complex. And as we see, we can define the conceptual Umwelt as related to any kind of reasoning.

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than fact. At any rate the disputed terms (*animal, language*) have to be precisely defined, and a definition agreed on by all discussants, before such discourses take on the character of being meaningful. This is no small task, since the "ayes" and the "nays" both tend to operate with tailormade definitions that make their stands highly meaningful.

The inclusion into the tripartite Umwelt model of this notion makes it clear that I too conceive of the ability to *language* as a modelling system, or as an important aspect of the modelling system that is the Umwelt. This holds true even for proto-language in form of predicative reasoning, which must be assumed to be quite widespread among animals. These animals, too, have cognitive modelling capabilities that go well beyond the work performed by the core Umwelt, which is based in automated perceptual acts.

But some animals participate in human language. Animals that recognize, understand and act on a number of human words arguably have conceptual Umwelten that envelop elements of language (this rests on the assumption that they actually understand words *as* words). For example, sheep herding dogs respond to verbal commands such as "Come by", "Lie down", "Stop", "Stand", "Walk up", "Steady", "Right there", "There, now", "Look back" and "That will do".[27]

As Stephen J. Cowley points out, "[l]anguage and perception use bidirectional coupling that links experience with wordings; you thus anticipate what is (un)likely to come next".[28] In the human context this implies, for one thing, that "our world is encultured".[29] "We see and hear and otherwise experience very largely as we do because the language habits of our community predispose certain choices of interpretation", as Edward Sapir writes.[30] As we become a part of a particular culture or language, notes Abram, "we implicitly begin to structure our sensory contact with the earth around us in a particular manner, paying attention to certain phenomena while ignoring others, differentiating textures, tastes, and tones in accordance with the verbal contrasts contained in the language".[31] Bert H. Hodges strikingly observes that languaging binds us together and empowers us: "Humans may find their identity, partly at least, within the interactions we call linguistic. Perhaps language is metaphorically a kind of weak force that binds humans in ways that make them effective causal agents in the physical world".[32]

In order to make a more convincing case for the phenomenon of predicative reasoning, I will now, as background for this notion, outline the workings of the tripartite Umwelt in more detail. Specifically, my claim is that we can generally conceive of six types, or categories, of acts, and that these can be located within the three different aspects of the Umwelt:

Core Umwelt

Automated acts of perception
Automated mental acts

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[27] Westling 2014, pp. 49–50.

[28] Cowley 2013.

[29] Cowley 2006.

[30] Sapir 1949, p. 162.

[31] Abram 1997, p. 255.

[32] Hodges 2007, p. 601.

Mediated Umwelt

    Wilful acts of perception
    Wilful mental acts

Conceptual Umwelt

    Habitual acts of perception
    Habitual mental acts

The elements involved are quite few: perceptual acts and mental acts which are each either automated (by which I mean the exact and physiologically based matching of something with something else), wilful (by which I mean the agenda- and interest-driven matching of something with something else) or habitual (by which I mean the learned matching of something with something else). But the distinctions implied are crucial: whereas *conscious animals* (with a brain, mind, and mental activity) carry out all six types of acts, non-conscious creatures, in so far as they perceive (in a broad sense), only carry out two, namely automated acts of perception and wilful acts of perception. These do not have any conceptual Umwelt, their Umwelten consist only of two aspects, the core aspect and the mediated aspect. Habitual, i.e. conceptual acts are reserved for conscious creatures (but even bacteria can carry out wilful acts of perception, i.e. make choices based on interpretation).

Here, language is implicitly said to be habitual. This is not to be associated with behaviourist language acquisition theories based on the work of, for instance, Burrhus Frederic Skinner.[33] According to this approach language is learned by way of simple stimulus-response mechanisms, and habit formation occurs as imitations of correct associations are encouraged via a sort of positive response. Within an Uexküllian framework, it does of course make sense to say that associative learning occurs, but language acquisition is more meaningfully looked upon as happening in the context of the individual Umwelt, or more specifically by way of the contextualization in (or integration into) the *Umwelttunnel* (i.e., the personally experienced chain-of-events throughout someone's life) of the learner. Language acquisition, therefore, is extensively based on interpretation (as well as on social expectations). Moreover, the characterization of language as habitual is not only relevant for language acquisition, but just as much for adult, mature language practices at large.

Previously I defined predicative reasoning as the mental act of ascribing a specific feature to someone or something, and contrasted it with automated acts of perception. We now see, for one thing, that it must also be distinguished from wilful acts of perception. In general terms automated acts can be said to be code-based, whereas both wilful acts and habitual acts are interpretation-based.[34] Simple crea-

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[33] Skinner 1953.

[34] An implication of this claim is that the core Umwelt is generally code-based, and that the mediated Umwelt and the conceptual Umwelt are interpretation-based. If this is correct, the interpretive threshold is not located where animals *with* a nervous system meet creatures *without* a nervous system, as Barbieri holds, nor where the biotic meets the abiotic, as Hoffmeyer holds. Instead, it is,

tures such as bacteria are capable of interpretation, and thus of making choices, but they are not capable of predicative reason, which is a capacity that is displayed only by conscious (brained, mindful) creatures.

Languaging as Perception, Action and Self-Deception

> *I began to wonder if my culture's assumptions regarding the lack of awareness in other animals […] was less a product of careful and judicious reasoning than of a strange inability to clearly perceive other animals – a real inability to clearly see, or focus upon, anything outside the realm of human technology, or to hear as meaningful anything other than human speech.*

> (Abram 1997, p. 27)

Languaging is More-than-Linguistic

In this third section I outline some core perspectives of distributed language (DL), before proceeding to present my notion of the anthropocentric mistake and discuss some implications. The distributed language perspective, which I consider to be largely aligned with my approach based on the Umwelt theory, is dealt with using five key terms, namely *languaging*, *first-order languaging*, *movement*, *interactivity* and *enkinaesthesia*.

Languaging is a term originally coined by Humberto Maturana[35] to refer to complex behaviors oriented to the creation and sustaining of "consensual domains".[36] He held that all living systems *language*.[37] By contemporary proponents of the DL view the term is rather used to emphasise that language is an activity rather than some set of formal abstracta. In Cowley's words, "[l]anguage is *activity in which wordings play a part*".[38] "Rather than view language as an *object*",[39] DL enthusiasts tend to say, we should focus on first-order activity or human languaging.

A crucial distinction is Nigel Love's *first-order languaging* and *second-order language* (said to have originated in Love's work in 2004,[40] where there is talk of first-order "activity" and second-order "cognition"[41]). As Martin Neumann and

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at least in our context, located where core experience meets mediated experience (and since these aspects often intermingle, the dividing line is not in plain sight).

[35] Maturana 1970.

[36] Thibault 2011, p. 215.

[37] Cowley 2014.

[38] Cowley 2011a, p. 4.

[39] *Ibid.*, p. 2.

[40] Love 2004.

[41] According to Paul Thibault (personal correspondence), the origin is really Love 1990.

Stephen J. Cowley point out, "linguists typically confuse language with second-order constructs".[42] In Paul Thibault's words, first-order languaging refers to "the organization of process on different scales that takes place when persons engage in talk together".[43] "First-order languaging crucially involves synchronized interindividual bodily dynamics on very short, rapid timescales of the order of fractions of seconds to milliseconds. […] Persons in talk enact, exploit, respond to, and attune to such events in order to engage with others and to coconstruct their worlds with them".[44] Thibault further explains that "[f]irst-order languaging is a whole-body sense-making activity that enables persons to engage with each other in forms of coaction".[45] As we see, this notion encompasses *movement*. "Since human movements both enact and elicit interpretations", writes Sune Vork Steffensen, "we orient to norms (and judge people by how they do so)".[46] "While language can be mapped onto grammatical, semantic, discursive functions, human activity *is* whole bodied movement. As we orient to circumstances, and each other, we give a particular sense to the vagueness of (verbal) language. […] While rooted in bodily movement, language is symbiotic: at times, dynamics dominate, at times, the verbal aspect of language".[47]

As Cowley notes, "[v]erbal patterns constrain bodily movements and the feeling of thinking as people co-ordinate the flow of activity. […] Co-ordination becomes a means of embodying thoughts".[48] The motive of interindividual bodily dynamics overlaps with that of *interactivity*. Thibault observes that research in infant semiosis "shows very clearly that from the very earliest stages of the child's meaning-making, that is, well before the onset of language, the processes involved are in fact fundamentally dialogic and intersubjective".[49] Steffensen defines interactivity as "sense-saturated coordination that contributes to human action".[50] If it wasn't for the qualifying term *human*, one would think that this definition should make the term applicable in animal studies as well, since many animals are no less coordinated than ourselves, and perform wonderful coaction.

Interactivity points us further, to the notion of enkinaesthesia, coined by philosopher Susan Stuart.

> "Enkinaesthesia" is a neologism I will use to refer to the reciprocally affective neuromuscular dynamical flows and muscle tensions that are felt and enfolded between coparticipating agents in dialogical relation with one another. Enkinaesthesia, like intersubjectivity and intercorporeality relates to notions of affect, but in this case it is with

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[42] Neumann and Cowley 2013.

[43] Thibault 2011, p. 214.

[44] *Ibid.*

[45] *Ibid.*, p. 215.

[46] Steffensen et al. 2010, p. 210.

[47] *Ibid.*

[48] Cowley 2011a, p. 2.

[49] Thibault 2000, p. 294.

[50] Steffensen 2013.

the affect we have on the neuro-muscular dynamical flow and muscle tension of the other, including other animals, through our direct and our indirect touch.[51]

Enkinaesthesia, then, is our felt sensitivity to the sensitivity of others – and a crucial aspect of interactivity, coaction, and social life. Enkinaesthesia arguably makes us human – and, indeed, animal.[52] Lived experience, in Stuart's view, is, first and foremost, enkinaesthetic.

Language and Self-Deception: The Anthropocentric Mistake

Identity is an intriguing thing. It is so obvious to us, who we are – or so it appears. Human identity is largely a linguistic phenomenon.[53] But fundamental as language is in constituting human cognitive reality, we *are* not entirely linguistic creatures. Man is not a sign. Man is not language. Man is not simply what it thinks it is (Man *is* not identity). Rather, Man is a creature who organizes ecological reality in linguistic categories – both perceptually and behaviourally.

It is very commonplace, therefore, to commit *the anthropocentric mistake*, namely to reason (erroneously) that human reality is practically all there is. We tend to think in terms of language, and in terms of language, all is language. All is *human* language – therefore all is human. What we do not realize when committing this mistake is that it is not only Man who judges, who categorizes, who organizes, who is different, and so forth.

The anthropocentric – or indeed linguistic – mistake, then, consists in mistaking human reality for reality as such.[54] Misjudging the nature of reality, we misjudge *our* nature – *living* nature – *human* nature. To put it bluntly, current mainstream views on language which are aligned with the anthropocentric mistake result in a string of distorted realities. They distort our view on consciousness, on experience, on knowledge/knowing, on reality, and on value, by making us believe that these are human phenomena only (or predominantly). As a result, philosophy of consciousness, phenomenology, epistemology and philosophy of science, ontology, ethics and aesthetics all underachieve in comparison with their innate potential.

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[51] Stuart 2010, pp. 308–309. Indirect touch, writes Stuart, "can be achieved [e.g.] through a look where one becomes the object of someone else's subjective attention and experience" (*ibid.*, p. 309).

[52] Given that enkinaesthesia is, in a way, *felt togetherness* and thus implicitly social and potentially emphatic, it can even be said to be part of the groundwork of morality. In this sense the phenomenon of enkinaesthesia does not lack a normative dimension.

[53] In Tønnessen 2010 language, which is claimed to have the appearance though not substance of a total system, is described as one of three grand systems – "Nature, Language, the Economy – all of which apparently in quest of hegemony over our lives, as natural beings – linguistic creatures – economic stakeholders" (p. 383).

[54] For similar presentations of the notion of the anthropocentric mistake, cf. *ibid.*, p. 377 and Tønnessen 2011, pp. 325–326.

The classical Thomas theorem in sociology can shed light on the psychology of the anthropocentric mistake: "If men define situations as real, they are real in their consequences".[55] If people intuitively define human language and everything that can be associated with it as real, and Abram is correct in stating that we have developed an inability to "hear as meaningful anything other than human speech",[56] as cited in the motto of this section, then from a psychological perspective it makes perfect sense to disregard non-linguistic reality almost completely.

The anthropocentric mistake can be further clarified with reference to Cowley's notion of taking a language stance: "[H]earing 'words' is like seeing 'things' in pictures. This is described as taking a language stance. To defend the position, it is argued that, first, we learn to hear wordings and, later, to use 'what we hear' as ways of constraining our actions".[57] As described by Cowley, this implies "that humans depend on taking 'a language stance' or hearing utterances as if they really were little units (a view further encouraged by literacy)".[58]

This latter sentence resonates well with Abram's observation: "Only when a more thoroughly *phonetic* system of writing spreads throughout a culture do its members come to doubt the expressive agency of other animals and of the animate earth. Only in the wake of the *alphabet* does language come to be experienced as an exclusively human power".[59]

In Search of the Dark Matter of Our Enlightened Worlds

According to J. von Uexküll[60] everything that falls under the spell of the Umwelt is retuned and transformed until it has become a useful carrier of meaning, or it is totally neglected. As we have seen, language is a powerful framer of behavior and of perception. In the context of human beings, the Umwelt is quite fluid (i.e. amenable to change) both individually and temporally for society as such. As languaging and human practices develop, so do our respective Umwelten. What is gained in this process, and what is lost? What is certain is that nowadays language, language-derived practices and various media playing into our mediated Umwelten are becoming ever more dominant. What then of our actual encounters with other living beings? If reality as we perceive it is consistently linguistic, then what role do we have to assign to non-human nature?

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[55] Thomas and Thomas 1928, pp. 571–572.

[56] Abram 1997, p. 27.

[57] Cowley 2011b.

[58] Cowley 2012a.

[59] Abram 2010, p. 17 (this observation was further developed in Abram 1997, where the philosopher analyses the connection between the emergence of written languages and the emergence of philosophy).

[60] Uexküll 1934–1940 [1956, p. 109].

Despite these tendencies toward alienation from nature, it remains the case, as we have seen earlier, that all languaging is underpinned by interbodily dynamics and sensual, carnal experience. And of course, any human doing is furthermore underpinned by an array of intercellular and ecological activities. We are just not always aware that this is the case – it belongs to the untold, the unseen which nevertheless sustains our conversations and our thoughts, our doings and our deeds.

In *Language: The Cultural Tool*, Daniel L. Everett[61] introduces the notion of "'dark cognitive and cultural matter' that appears in what is *not* said in discourse".[62] Though critical of aspects of Everett's book, Cowley nevertheless concurs that this is an interesting concept. "In Everett's idiom", he writes, "dark cultural matter imbues language with values". Cowley adds that "language shapes lives as individuals sensitize to dark cultural matter".[63]

Everett's point, or claim, is that any culture envelops much that is simply taken for granted. Therefore a full transcription of an everyday conversation will not spell out all there is to say about what two or more people have just talked about. What two persons both take for granted may be treated as given, when they speak. And it does indeed appear to be the case that volatile conversations are often characterized by uncertainty about what the other person is taking for granted.

How can we escape having a *tunnel vision of language* (seeing only what is in plain sight)? How do we contribute to shaping our own Umwelten in a healthy, sustainable, ecologically grounded manner? How can we co-create Umwelten that we are not all too ashamed to pass on to our children? We may have to reeducate ourselves. Learn how to see again. How can we study the "dark matter" of our enlightened worlds? Given all the dark matter underpinning and surrounding verbal practices, a foray into the hinterland of language – the land which sustains us – is definitively called for. Best of luck on that journey!

The Genesis and Modalities of Language

> *We get into the habit of living before acquiring the habit of thinking.*
>
> (Camus 1942 [1983, p. 8])

Origin and Evolution of Language

An *Umwelt trajectory* can be characterized as the course through evolutionary (or cultural) time taken by the Umwelt of a creature, as defined by its changing relations with the Umwelten of other creatures.[64] One way to portray the Umwelt trajectory

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[61] Everett 2012.

[62] Cowley 2012b, p. 285, with reference to Everett 2012, p. 198.

[63] Cowley 2012b, p. 285.

[64] Tønnessen 2014.

of humankind in the most general terms possible would be to depict the human Umwelt in its aspect of emerging layers or aspects (cf. the core Umwelt, the mediated Umwelt, and the conceptual Umwelt). In the history of life in general, the core Umwelt is without doubt the initial Umwelt. It is equally clear that the next layer to emerge must have been the mediated Umwelt, followed by the conceptual Umwelt as the latest and most advanced aspect of Umwelt. But humankind must have had all three aspects of Umwelt from the outset, and several animal species likewise. So if we were to portray the Umwelt trajectory of humankind in these terms, we would have to go very far back in our pre-human evolutionary history. A macro-evolutionary event that is more characteristic of human existence is the emergence of languaging practices (followed, later on, by literacy).

As Sverker Johansson remarks, however, "there is no consensus on when the transition from non-language to language took place, nor any consensus on the species of the first language users".[65] Our subspecies, *Homo sapiens sapiens*, might not have been the first one to *language*, since other human subspecies (now extinct) might perhaps have developed the practice of languaging before us. Johansson examines whether Neanderthals had language, and asserts that "the preponderance of the evidence supports the presence of at least a spoken proto-language with lexical semantics in Neanderthals".[66] This conclusion, he writes, would be strengthened if genetic data suggesting that interbreeding between Neanderthals and modern humans took place were confirmed.[67] Just as there is no consensus on when language emerged, neither is there any consensus on "the nature of this transition – was it a sharp single-step leap […] or a gradual evolution in many small steps"[68]? Noam Chomsky is among those who argue that the transition must have been sharp.[69]

"If language is not a purely mental phenomenon", writes Abram,[70] "but a sensuous, bodily activity born of carnal reciprocity and participation, then our discourse has surely been influenced by many gestures, sounds, and rhythms besides those of our single species" – including birds.[71] What is remarkable with regard to the evolution of language is that of the genes that have been identified as relevant for language abilities, "virtually all […] are present also in animals. All known genes of language, in other words, are genes of the primary modelling system that we have inherited from our animal ancestors".[72] This is consistent with the view, shared by Chomsky and Sebeok, that language evolved as an exaptation, i.e. that the function of language has changed from one (e.g., cognitive modelling) to another (e.g., communication).[73]

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[65] Johansson 2013, p. 35.

[66] *Ibid.*

[67] *Ibid.*, p. 57.

[68] *Ibid.*, p. 39.

[69] Chomsky 2010.

[70] Abram 1997, p. 82.

[71] Abram 2010, pp. 197–198.

[72] Barbieri 2012b, p. 458.

[73] But Chomsky, of course, takes language to be a language *faculty*, and his view is therefore, in this respect, fundamentally different from that which follows from an Uexküllian Umwelt perspective,

Hoffmeyer too shares this view, and builds on both Thomas Sebeok and Gregory Bateson[74]: "Implicit [in G. Bateson's theory] is the idea that [the verbal aspect of] language has not – at least to begin with – served any communicational purpose (similar in style to that of body language) whatsoever, but that it has more likely been associated with the development of a quite new type of inner, mental concept – let us call it a cognitive model".[75] As we have seen, the tripartite Umwelt model implies that the conceptual Umwelt must have emerged long before language. The modelling capabilities involved in predicative reasoning were arguably there for hundreds of millions (but not billions) of years before language evolved. This suggests that human language is a later, more commanding derivative of such capabilities. Just like predicative reasoning does for any animal endowed with it, language affords the human organism with the capacity to organise its Umwelt objects and factors more meticulously. Despite all the matchless characteristics of language, this suggests that the difference between language and other forms of predicative reasoning is in the end a matter of degree, or perhaps more fittingly of magnitude.

Acquisition of Language in Childhood

Besides Umwelt trajectories, the evolution and development of language can also be depicted in terms of an *Umwelt transition*,[76] i.e. a lasting, systematic change within the life cycle of a being from one typical appearance of its Umwelt to another. A human child arguably goes through several Umwelt transitions, or a very multifaceted one, as it learns to *language*. As Albert Camus says in his *Myth of Sisyphus*, "[w]e get into the habit of living before acquiring the habit of thinking" – and similarly, we arguably get into the habit of languaging before acquiring language.

With reference to Adolf Portmann's work, Barbieri neatly describes how being born prematurely (due to our short gestation period relative to lifespan compared with other mammals) affects our brain development and implicitly our capacity for language learning: "In all other mammals, the wiring of the brain takes place almost completely in the dark and protected environment of the uterus, whereas in our species, it takes place predominantly outside the uterus, where the body is exposed to the lights, the sounds and the smells of a constantly changing environment".[77] In effect, he suggests, the constraint of the birth canal "has split the foetal development of our brain into two distinct processes, one within and one without the uterus".[78]

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or from the DL perspective.

[74] Bateson 1972.

[75] Hoffmeyer 1993 [1996, p. 101]. Hoffmeyer further asserts that "[t]hrough speech, human beings broke out of their own subjectivity because it enabled them to share one large, common *umwelt*. While pre-lingual creatures had recourse only to their own finite *umwelts*, speech had the benefit that it could turn the world into a mystically produced common dwelling place" (*ibid.*, p. 112).

[76] Tønnessen 2009.

[77] Barbieri 2012b, p. 457.

[78] *Ibid.*, p. 460.

This is crucial biological background for our species' character of being a generalist species, and for our understanding of language learning.

The Various Linguistic Modalities of the Human Umwelt

In point 4 of the platform for a *semiotics of being*,[79] I refer to *speechless Umwelten*, *spoken Umwelten* and *alphabetic Umwelten* as distinct categories of human Umwelten. Practically every human being, we may assert, experiences within his/her lifetime a transition from a speechless Umwelt to a spoken one – most persons further to a more or less alphabetic or pictographic one. Additionally, there are situations – states of mind – where we so to speak loose (or deliberately pause) our ability to speak, or to perceive in terms of language. These are border cases of the speechless and the spoken, some of them bordering on insanity.

Beyond the Anthropocentric Mistake: Languaging as if Nature Mattered

> *Today's intrepid researchers have yet to notice that the human body, in itself, is no more autonomous – and no more conscious – than an isolated brain. Sentience is not an attribute of a body in isolation; it emerges from the ongoing encounter between our flesh and the forest of rhythms in which it finds itself, born of the interplay and tension between the world's wild hunger and our own.*
>
> (Abram 2010, p. 110)

The recently deceased Estonian geologist and palaeontologist Ivar Puura (1961–2012) coined the notion of semiocide, which he defined as "a situation in which signs and stories that are significant for someone are destroyed because of someone else's malevolence or carelessness, thereby stealing a part of the former's identity".[80] "By wholesale replacement of primeval nature with artificial environments", writes Puura, "[a]t the hands of humans, millions of stories with billions of relations and variations perish".[81] As Timo Maran notes,

> Puura most correctly stresses that nowadays the phenomenon of semiocide is very widespread both in human culture and society as well as in relations between culture and nature. Unfortunately, semiotics appears to have overlooked this dark side of semiotic relations, as is evident from the lack of a conceptual framework and studies dedicated to this topic. […] This is a question of the ethical responsibility of semiotics.[82]

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[79] Tønnessen 2010.

[80] Puura 2013, p. 152; cf. Puura 2002.

[81] Puura 2013, p. 152.

[82] Maran 2013, p. 148.

Language is relevant here for two reasons. First, because when languages are going extinct, semiocide occurs and, second, because language can make us blind to the ongoing non-linguistic semiocide. The way we *language* around for example animals is telling of our relationship towards them. As Arran Stibbe notes, "the discourses we use to construct our conceptions of animals and nature have important consequences for the well-being of the animals and the ecosystems that support life".[83] If cognition is situated, embodied, extended and distributed, then we can engage in "thinking with animals"[84] in a literal sense. This chapter ends with three theses on the ethos of human-animal relations, which have implications for ethics, ontology and epistemology:

1. Language and languaging largely originated in human-animal co-action. Language did not emerge in a merely human setting.
2. In the modern era many people are inexperienced with regard to traditional human-animal encounters (and thus alienated with regard to nature).
3. In the future, it would be beneficial for people and animals alike if languaging practices around animals would entail less *anticipated muteness* and rely more on enkinaesthesia, "the entwined, blended and situated co-affective feeling of the presence of the other".[85]

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[83] Stibbe 2012, p. 16.

[84] Daston and Mitman (eds.), 2005.

[85] Stuart 2010.

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