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Linguistic Denotation as an Epistemological Issue

Original Study

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Abstract: Linguistic denotation is discussed as an epistemological issue that arises from the philosophy of external realism and the reification of language as a communication tool. Together, these serve as a foundation for viewing language as a sign system used for knowledge representation, when denotation is seen as the semantic property of linguistic signs – indication or reference to something, such as a thing (event, process, activity) or a concept. However, since neither the concept of sign in semiotics nor the concept of knowledge in philosophy (let alone the concept of concept itself) has a uniformly accepted informative definition, the concept of denotation, viewed by many as an implied semantic property of the linguistic sign, is highly controversial. It is argued that the reification of linguistic signs is a poor starting point in our attempts to understand language, not as a tool in the service of the mind, but as a mode of existence of humans in the world as an image of language.

1. INTRODUCTION

In keeping with the well-established structuralist tradition to view language as a system of signs used in an instrumental function — a communication tool for the exchange of mental content (meaning) — the focus of linguistic semiotics over the past 100-odd years has been on linguistic signs as components of this system. The belief that to understand what language is and how it works is to understand the nature and semantic structure of linguistic signs, is the hallmark of contemporary linguistic semiotics informed by the philosophy of external realism, particularly, Frege's (1892) influential analysis of signs in terms of the semiotic triangle, "sign-sense-reference", epitomized in Ogden & Richards' (1923) classical work on linguistic semantics. However, despite the massive amount of literature on meaning as the core problem of linguistics, its possible resolution remains the "Holy Grail" of semiotic research, and semioticians continue searching for an answer to the taunting question, "What is the meaning of "meaning"?

The main reason why this question should remain the focal point in linguistic semiotics could be the semiotic terminology itself used by philosophers and linguists in different kinds of meaning theories which, as observed by Zlatev (2002, 253), are separated by trenches "so deep that a rational debate between the different camps seems impossible". The terminology used in theories of meaning is far from being unified and largely depends on adherence to a particular school of thought, such as the Fregean (sign-sense-reference) or Peircean (representamen-interpretant-object) triadic model of sign, or the Saussurean dual layer theory (signifier-signified). Particularly, the following question poses a challenge to anyone who is unwilling to take sides in the scholarly semiotic disputes: "Do signs denote or refer, or both?"

However, it is not my intention to find any middle ground by offering yet another set of terms in hopes of "filling the trenches" and overcoming the controversies inherent in established semiotic paradigms. Rather, I question the initial assumption implicit in mainstream

semiotic research about the representational function of linguistic signs. My proposition is that the root of the problem is of an epistemological nature, and we cannot hope to come any closer to understanding either language or linguistic signs as long as our theoretical stand draws on the dualist belief in objectivity as something independent of the human subject that observes, builds mental "representations" of the observed and "expresses" them in language. The view of language as a system of signs "out there", in external reality, that possess "objective" properties (such as "denotation") accounting for their use (reference) in an instrumental function as containers for the transfer of meanings from one head to another, reifies meanings as objects. Thus, the study of meaning becomes what Zlatev (1997) calls "Reificatory Semantics" based on two dogmas of linguistic theory, the Dogma of the Autonomy of linguistic meaning, and the Dogma of the Compositionality of linguistic meaning (Sinha 1999). However, when such a reification serves as an initial epistemological assumption in our attempts to explain language, linguistic signs, and meanings, they are doomed to failure for a simple reason: language is not something *sui generis* that exists and functions on its own as a structured system of objects (linguistic signs) that have identifiable properties (meanings). As species-specific interactional behavior, language is the defining feature of humans as living systems and may be understood only as such (Kravchenko 2022). Therefore, a particular kind of systems approach to language is needed.

Such an approach, developed by Maturana (1970, 1978, 1988a, 1988b) as part of his (radical) constructivist epistemology, has two important implications. Firstly, the system is defined by the organization that it conserves rather than the structures through which that organization is instantiated or, indeed, the functions that can be ascribed to those structures. Secondly, the "double view of systems" is needed, when a system is simultaneously described in two separate non-intersecting domains, one *operational* (system as a collection of components) and the other *phenomenal* (system as a singular entity in interaction with a medium which contains the system and makes it possible). As was noted in (Kravchenko 2022), mainstream (objectivist) linguistic semiotics fails to see the conceptual difference between treating language as a structured system of vocalizations (signs) produced by human organisms and *languaging* as human-specific behavior in the phenomenal domain. As collections of structural elements, languages may be very different, yet these differences do not specify languaging as behavior. And because orthodox linguistics describes language mainly in the operational domain, the established view of the function of language (transfer of information via linguistic signs) is far from being adequate or helpful in understanding the role of language in the human praxis of living.

In an attempt to come closer to such an understanding, I will briefly discuss the roots of the established view of language as a tool for the expression and transfer of meanings as representations of external reality, focusing on the term "denotation" and the concept(s) behind it. It will be argued that the generally accepted trivial meanings of this and other key terms used by linguists affect how language is conceptualized, becoming an epistemological trap. Then, as a way out of this trap and a step towards a better understanding of language and linguistic signs, the relationship between language and the world will be considered in the framework of radical constructivist epistemology that leaves no room for "denotation" in its traditional sense (Kravchenko 2007).

2. THE EPISTEMOLOGICAL OBSTACLE

"Of all things the measure is Man", said Protagoras (Speake 2015). It is a natural predisposition of humans as observers of the world — everything around that is not a physical part of the observer himself — to view themselves as the ultimate point of reference (Maturana 1970, 2) in drawing the picture of the universe in which they must orient in order to adapt to the environment in their struggle for survival: "the fittest survives". Adaptation is based on the organism's ability to choose a course of actions beneficial to the organism as a living system. The constant pressure to take into account aspects of the environment that are not, physically, part of the observer as a living system and, therefore, not subject to the control of the observer's total system dynamics, requires an explanation that motivates the observer's possible interpretation of the observed, that is, adaptive response based on an analogy with what the observer "knows" best — his own organism as a living (cognitive) system. This is the source of dualism in our world view which is thoroughly anthropocentric and anthropomorphic (Gardelle, Sorlin 2018).

Because we are bipedal talking organisms with a characteristic body structure that affects which parameters of our mode of operation in interactions with the environment are most important, we live in a three-dimensional world: the vertical dimension "up-down" reflects our fully functional standing body posture, while the two horizontal dimensions, "front-back" and "left-right" bear on the direction of our motion in space and/or position of other objects relative to our body. In this world, centered on the observer, the sun rises, rivers run, winds howl etc., not because such is the "external reality" but because the archaic observer saw them as self-propelled, and therefore animate, objects (Premack 1990), on an analogy with the observer himself.

In the wild, the ability to orient in the perceptually present environment is partly instinctive (genetically predetermined) and partly acquired through lived experience. In the case of newly born human babies, however, the perceived immediate environment is radically different in that it is permeated with vocalizations as a distinctive feature of human interactional behavior that defines a given community as a living system. Developmentally, little children become part of this system when they are capable of integrating their individual system dynamics

with the dynamics of the community as a whole, that is, when they become capable of languaging. Therefore, the human praxis of living is different from the praxis of living of all other species, because orientation, adaptation and, ultimately, survival all happen in, and depend on, language as the cognitive domain of humans. As emphasized by Maturana (1988a, 2),

> "we find ourselves as human beings here and now in the praxis of living, in the happening of being human, in language languaging, in an *a priori* experiential situation in which everything that is, everything that happens, is and happens in us as part of our praxis of living. In these circumstances, whatever we say about how anything happens takes place in the praxis of our living as a comment, as a reflexion, as a reformulation, in short, as an explanation of the praxis of our living, and as such it does not replace or constitute the praxis of living that it purports to explain."

"An explanation does not constitute the praxis of living that it purports to explain." This is what Cartesian linguistics seems to be unable to grasp, oblivious of the obvious (at least, to some in the academic community) fact that it offers an explanation of language that effectively replaces the human praxis of living. As linguists speak about meaning as something expressed and denotation as the function of linguistic signs, they extol external realism by sustaining a view of language as a thing "out there" to be acquired and mastered by humans in their communicative practices. Thus, the language myth (Harris 1981), the idea that language is a code used to transfer encoded thoughts from one head to another, continues to inform mainstream research into the nature and origins of meaning, the central problem of linguistics. To use Wittgenstein's (1953, 47) colorful phrasing, this is a stark example of "the bewitchment of our intelligence by means of language". As a result, the concept of (scientific) knowledge, just as other epistemological concepts, remains elusive (Bolisani, Bratianu 2018), the concept of sign being no exception (Lidov 1998).

As a semiotic phenomenon, language is interpretatively terminal in the sense that "there is nothing that stands to language in the relation that language stands in to everything else" (Love 2007, 705). It is our "house of being" (Heidegger 1978) in which we "happen" as humans, but which we cannot leave and look at from a distance – and the big is best seen from a distance. Our "house of being" becomes an epistemological trap (Kravchenko 2016), and our attempts to cognize and describe the world we observe are defined only by what this trap affords: language is our existential domain in which we happen and become what we are.

Once we realize this — and this is something that Cartesian minds are not prepared to do — we understand, in keeping with Protagoras' anthropocentric thesis, that the world "is an image of language. Language comes First, and the world is a consequence of it" (Foerster 2002, 71). This does not mean that the nature of language is forever hidden from us, or that our attempts to understand and explain it are similar to the attempts of the blind men, from J. Saxe's famous satirical poem, to explain what an elephant is by groping its different parts. However, to understand the nature of language we need to realize that a radical change of perspective is needed on such crucial epistemological concepts as "knowledge" and "objectivity" (Maturana, Varela 1987; Maturana 1988a). As Maturana (1988b, 4) argued,

> "scientific explanations do not require the assumption of objectivity because scientific explanations do not explain an independent objective reality. […] Science is not a manner of revealing an independent reality, it is a manner of bringing forth a particular one bound to the conditions that constitute the observer as a human being."

These conditions are determined by the operations of distinction made by the observer in language. Such operations specify entities operationally cleaved from a background:

> "Furthermore, that which results from an operation of distinction and can thus be distinguished, is a thing with the properties that the operation of distinction specifies, and which exists in the space that these properties establish. Reality, therefore, is the domain of things, and, in this sense, that which can be distinguished is real. Thus stated, there is no question about what reality is: It is a domain specified by the operations of the observer" (Maturana 1978, 55).

Because the observer arises in language, the observer establishes a world of things as a spoken description of the observer's cognitive domain, which specifies the observer as a living system. That is how we "happen in language", which becomes our existential universe: "all that exists exists in language as consensual coordinations of consensual actions of observers, the observer included" (Maturana 1986, 3). *Pace* orthodox views on linguistic signs as representations of the various aspects of external "reality", it is "reality" itself that arises in language as "objectivity with parentheses" (Maturana 1988b), and it arises as an image of language. This image is not something conspicuous and easily seen for the abovementioned reason: we are trapped in language that we attempt to measure "using" language itself as a measuring device. A good example of such an entrapment is the concept of denotation in linguistics.

The traditional language used by linguists to explain denotation (or any other semiotic concept, for that matter) draws a dividing line between things in the "objective" world independent of what the speaker thinks/says about this world, and linguistic signs used to "bring" us back to these things (the meaning of Lat. *referre*), while the signs themselves are also things in the world that constitute language as a tool used to express meanings. The term "denotation" (Lat. *denotare*, from *de-* 'away, thoroughly' + *notare* 'observe, note'), in its standard use in linguistic semiotics, refers to the literal or primary meaning of an expression (a word or phrase), in contrast to "connotation"

as an idea or feeling which a word invokes for a person in addition to its literal meaning. Meanings are hidden inside us, in our minds, and have to be squeezed out, that is, "expressed" (Lat. *ex-* 'out' + *pressare* 'to press'). At the same time, "literal meaning" appears as a property of written words (Lat. *littera* 'letter') which, as graphic inscriptions, are not and cannot be in the mind. Note that, *sensu stricto,* there may be no literal meanings of expressions in unwritten languages, which raises the question of whether expressions in such languages have denotation.

It is not my intention to give an overview of the problem posed by the concept of denotation and its corollary, connotation, extensively discussed in the literature (Russell 1905; Wittgentstein 1953; Voloshinov 1973; Barthes 1975; Eco 1987; Mick, Politi 1989; Gahrn-Andersen 2019 inter alia). Instead, I am going to argue that it is the epistemological obstacle, posed by language as our existential (cognitive) domain, that must be overcome if we want to understand language as semiosis, or "objectivity with parentheses". Note that such an overcoming is, conceptually[1], the meaning of "explanation" (from Lat. *explanare* 'make [the path] level, flat', that is, easy for walking) that leads to understanding as 'being close" (the etymological meaning of "understand") to whatever is the goal of our travel in quest of knowledge.

3. THE DOUBLE VIEW OF LANGUAGE

In the biology of language (Maturana 1978), explanations can be of two kinds, mechanistic and vitalistic. In a mechanistic explanation, the observer assumes the properties of a system or characteristics of a phenomenon to be explained as resulting from the relations between its constitutive components or processes respectively and, thus, absent in the components or processes themselves. By contrast, in a vitalistic explanation, the observer assumes that the properties of a system or characteristics of a phenomenon to be explained are inherent in at least one of the components or processes constitutive of the system or phenomenon. "In a mechanistic explanation the relations between the components are necessary; in a vitalistic explanation they are superfluous" (Maturana 1978, 30). In an attempt to explain what the linguistic sign is and what and how is grasped by it, it is necessary to decide what it is that we want to explain, language as a system "in itself and for itself" constituted by linguistic signs as its components (when language is described in the operational domain), or language as human-specific interactional behavior (what Maturana calls "languaging") – the totality of its constitutive processes and the relations between them that form an organism-environment system as a unity (when language is described in the phenomenological domain).

In traditional linguistics as the study of language in its representational function, the focus of attention is on words viewed as the main structural units of language as a sign system. Because of the written language bias in linguistics (Linell 2005), when the experientially different cognitive domains of speech and writing (Kravchenko 2009) are viewed as the two functionally equivalent manifestations of the same semiotic phenomenon, natural linguistic signs (the embodied and enacted articulatory-acoustic phenomena characteristic of human interactional cooperative behavior) are reified as manipulable container-like things (unities of form and meaning) in an "objective" world that is taken to be independent of the speaker (Davidson 2019). As parts of a structured system, linguistic signs are taken to be used in an instrumental function to represent the various aspects of reality because of their capacity to stand in, as a name or symbol, for something else, that is, to denote (or mean). On such a view, the representational function of language results from the representational function of its structural components, linguistic signs.

An explanation of language as a structured system of signs is vitalistic, because its function to serve as a tool for the exchange of meanings results from the alleged denotational function of its components. It is precisely for this reason that, to an orthodox linguist, to explain the nature and function of language is to explain the nature and function of its constitutive components, words as unities of form and meaning. Held in the tight grip of the language myth and falling into the epistemological trap of language, linguists and semioticians offer a vitalistic explanation of language as a communication tool whose systemic properties (the alleged function of information exchange) are determined by the denotational properties of linguistic signs as components of the system. The inadequacy of such an approach to linguistic signs results in the inadequate understanding of language as a system of such objects, while language as a phenomenon – species-specific interactional cooperative behavior constitutive of humans as living systems – remains largely unexplored. Unsurprisingly, orthodox linguistics as a science, with all its theoretical achievements, has not produced any noticeable effect on the human praxis of living.

The traditional view of linguistic signs as bilateral entities with a representational function results in an epistemologically inadequate general theory of language described exclusively in the operational domain. However, to come any closer to understanding language as the characteristic feature of humans as living systems (organism-environment systems as units of interactions), one needs a description of language in the phenomenological domain. Such a description assumes the decisive role of language in defining humans as living (cognitive) systems: "as human beings we are neither our bodyhoods, nor our behavior, rather we are a continuous systemic dynamics that take place in the interplay between bodyhood and behavior, and we exist as languaging beings in a relational space that arises in that dynamics" (Maturana, Verden-Zöller 2008, 29).

1 Etymologically, *concept* is traced to Lat *capere* 'take; catch' and means, roughly, 'something grasped (by the word)'.

This systemic dynamics is best understood by making a distinction between *languaging* as "the recursive flow of consensual coordinations of behaviors" in the relational domain and *language* as "a manner of living in recurrent interactions in a flow of coordinations of coordinations of consensual behaviors" (ibid., 30). As a manner of living, language is our cognitive domain, because living systems are cognitive systems, and their domain of interactions is a cognitive domain (Maturana 1970). Therefore, languaging "cannot be separated from the practical activities and the cognitive worlds it brings into being" (Raimondi 2022, 53; cf. Raczaszek-Leonardi, Cowley 2012; Kravchenko 2020; Cowley, Gahrn-Andersen 2022). This makes the issue of denotation as a relationship between linguistic signs and objects in the world for which signs "stand in" (the so-called representational function of language) an epistemological issue, raising the question, "How do we come to adopt the view that particular objects exist prior to being named?"

There is a widely shared view that a perceptually present object may be, and often is, identified in a conceptual manner because our basic perception is concept-based (Barsalou 1999). However, despite an immense literature on concepts in general and their role in perception in particular, as Frixione & Lieto (2014) observe, "the problem of the relationships between concepts and perception in cognitive science is blurred by the fact that the very notion of concept is rather confused". To say, as Gallese and Lakoff (2005, 455) do, that concepts are conventional and relatively stable elementary units of reason and linguistic meaning isn't really to say much as long as the following crucial questions have not been answered in a coherent manner, "What is reason?" and "What is (linguistic) meaning?" Moreover, as argued by Jackendoff (1989, 68), "the 'correctness' of a particular notion of concept cannot be evaluated without at the same time evaluating the world-view in which it plays a role". This takes us to the notions of world and worldview and the role of language, as our cognitive (existential) domain, in viewing and knowing the world.

5. LANGUAGE AND THE WORLD

"All doing is knowing, and all knowing is doing" (Maturana, Varela 1987, 248). This famous maxim succinctly sums up the essence of the biology of cognition as an epistemological framework for the study of living systems as cognitive systems. Blinded by the fact that human cognition, defined by our ability for abstract thought and reasoning, is by far superior to non-human animal cognition, objectivist epistemologists of various strains search for ways to explain knowledge as mental representations of the external world allegedly necessary for understanding this world, thus helping humans to purposefully act in it to their own advantage. As social animals, humans are believed to differ from other social animals in that they can share their individual knowledge by making it public through the use of language as a (semiotic) tool, thus achieving a much greater degree of social cooperation beneficial to the community as a whole (cf. Oeberst, Kimmerle, Cress 2016). On this approach, language "plays an important part in human culture since its denotative dimension is linked with what essentially characterises things as things, namely their *thingness*" (Gahrn-Andersen 2019, 179; emphasis in original. – A. K.). Thus, denotation is viewed as crucial in enabling people to engage in socio-material practices (Gahrn-Andersen 2023).

The problem, however, is that too many names that we use are not names of discernible physical objects or phenomena, and in our praxis of living in language they do not refer to aspects of external reality ("objectivity without parentheses") and, therefore, do not have what linguists call "denotational meaning", or reference, in Frege's (1892) terms. As pointed out by Foerster (2002, 80), "it is language that, because of its denotative aspect, seduces us and makes us look for the properties of reality "out there" instead of within ourselves". Because "expression", "denotation", "meaning" and other terms used by linguists to speak about linguistic signs, are nouns, and a noun is, typically, a name of an object with a particular locus, many take for granted that denotation and, above all, meaning as a property of the linguistic sign, exist in external reality (cf. Kravchenko 2024). Researchers seek to understand language as part of the culture (Cowley, Kuhle 2020) that permeates social life (Chiu 2011), focusing on human skills and competences that emerge from a process of enculturation in human socio-material practices (Gahrn-Andersen 2023). The legacy of dualism in our attempts to understand and explain the material world and our place in it makes us take it as a given that there are, indeed, such distinct and ontologically separate things as "language", "culture" and "socio-material practices" in which "linguistic signs" relate, through denotation, to non-linguistic "objects" and mediate our engagement with the world "out there".

Yet, if meaning is what is meant, and to "mean" is 'to have in the mind, intend', how can meaning be the property of a sign as an external object used as a tool for ex-pressing this meaning from within the mind? A structuralist, firm in his belief that linguistic signs (words) are arbitrary pairings of form and content, might parry this question with the famous line from Shakespeare's *Romeo and Juliet*: "What's in a name? That which we call a rose by any other name would smell as sweet". However, a sweet smell is not the only and sole characteristic of "that which we call a rose", apart from the fact that many flowers other than the rose also smell sweet. It is precisely the name, "rose", that identifies a particular plant amongst thousands of plants that smell sweet, invoking a plethora of associations borne of our experience as observers that arise in language. As argued in (Kravchenko 2022), the eigenform principle that underlies linguistic semiosis (Gasparyan 2020) as the generation of recursive descriptions of the observer's interactions in the cognitive domain (Foerster 1973), is a key to understanding the nature of objects and the relationship between the observer and the world of the observer (Kauffman 2005) *constructed in language*. The logic of

Maturana's (1988a, 1988b) argument was as follows: (i) the observer is a system capable of descriptions (linguistic semiosis), (ii) he generates a spoken description of his cognitive domain as the domain of interactions, (iii) the observer can describe a system that gives rise to a system that can describe, hence, to an observer, (iv) a spoken explanation is a description of the synthesis of that which is to be explained; therefore, (v) the observer explains the observer.

Counter to the dualist philosophy of externalism, a radical constructivist approach to language assumes its connotational rather than denotational nature (Maturana 1970). A systems approach to language consists in viewing it, not as a kind of object (sign system) to be studied "in itself and for itself", but as species-specific human interactive (dialogical) behavior constituted by dynamical processes and relations between them, that include "wordings" (Cowley 2014) as articulatory-acoustic phenomena integrated in our bodily dynamics. Linguistic signs are not containers used for the transport of ideas because "thoughts do not travel" (Sperber, Wilson 1986, 1). Signs are hints inviting certain inferences in the process of interpretation (Keller 1998, 90). The linguistic sign should not be viewed as a thing, property, or relationship, because it emerges and exists only as a component of the interactional orientational activity. The nature of linguistic signs and semiosis may be understood only if the emergence and the modes of existence of meanings in human activity are understood. Meanings do not exist on their own as a special kind of objects moved by the talking people from one place to another. Meanings are induced, they emerge in semiosis as a process distributed in space and time in which, and only in which, signs exist.

On a constructivist approach, naming, as an operation of distinction, is not the process of identification of a thing that exists in "objectivity without parentheses" and is characterized by "thingness" as its essential property. Engagement of humans in various socio-material practices, along with culture itself, is an evolutionary consequence of the rise of languaging and the observer as a living system that exists as a unit of interactions in the niche as that part of the environment with which it interacts and which it specifies, that is, language as a relational domain. As an operation of distinction, naming *brings forth* a thing with the properties that the operation of distinction specifies. Moreover, as explicitly put by Maturana (2014, 188),

> names and words in general are not trivial artifices for indicating preexisting conceptual or physical entities, they connote what we do and feel as we use them. Without our always being aware of what we are doing, names and, in fact, all words that we use, constantly orient our sensory-operational-relational living, both illuminating and obscuring it, according to the emotions that they evoke in us.

After we, as a community of talking animals, give a name to something that we distinguish in our domain of living, whenever we later pronounce that name, we bring forth into our present that something and the sensory-operational-relational domain that we are generating through it in our living. As a process, the interpretation of linguistic signs is not "extraction" of meanings they are believed to "contain". Rather, it is a dual process: on the one hand, linguistic signs are identified as common reference points for the coordination of cooperative behavior of individuals that constitute a complex living system, a community of humans speaking a common language, and on the other hand, the inductive behavior of individuals, determined by their specific developmental history, is correlated and integrated with the general dynamics of the system as a whole. Therefore, the semiotic properties of linguistic signs have an emergent nature; signification is not an intrinsic property of what the observer identifies as a linguistic sign, it emerges in the flux of lived experience in the process of Hebbian learning (Hebb 1949) and is mediated by an organism's behavioral response to the component of the environment perceived and interpreted as a linguistic sign. Thus, language as a relational domain becomes a crucial ecological factor both in ontogeny and phylogeny.

6. CONCLUSION

Cartesian minds adopt the idea that things exist in the world as "objectivity without parentheses" and seek to explain the nature of language by focusing on the role it plays in culture largely understood as engagement in socio-material practices mediated by linguistic signs. However, as observed by Blaise Pascal (1966, 126), "habit is our second nature that destroys the first". Habit is a settled practice of doing something, and because whatever we humans do we do it in language as our existential/cognitive domain, the very language we speak becomes a major epistemological obstacle on our way to understanding and explaining the world our language describes. The habit, grafted on to us by language itself, to view linguistic signs as objects whose function is to "denote" things in the world thus facilitating and augmenting our engagement with them – or, in short, the objectivist philosophy of external realism – becomes a formidable epistemological hurdle for linguists and semioticians alike, casting a veil over the entire issue of linguistic meaning and denotation as one of its dimensions. The impasse may be overcome by a conceptual jump from external realism to radical constructivism, suggested by the biology of cognition.

Human cognition differs from non-human animal cognition in that the cognitive domain of humans is the domain of linguistic interactions as species-specific coordinations of coordinations of cooperative behavior in a consensual domain: everything humans do they do in language. Human cognition is coupled with language such that one cannot be separated from the other (Bunnell 2015); in other words, it is enlanguaged. Therefore, to understand the nature of human cognition, we must "grasp" the nature of language as semiotic behavior that

includes operations on what we call linguistic signs – operations of distinction that bring forth a specifically human, enlanguaged universe, in which semiotic relationships between linguistic signs and what they "stand for" are *causally reciprocal*: just as a word can be a sign of an object or phenomenon, an object or phenomenon can be a sign of a word. Linguistic signs do not denote things in the "objective" world; they are constitutive of the world as an image of the language we speak.

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