Semiotic Beings: The Realm of a Single Kind?

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Abstract

Our research pays attention to the problem of the coverage of the realm of semiotic beings. This problem is raised by the meeting between the contemporary account of the human animal as a semiotic animal and the possible advent of a technological singularity, meaning a living technological being aware of semiosis. Apart from highlighting the prospective emergence of a complex phenomenon leading to evolutionary pressures on humans, we also pointed to a positive direction toward developing a cooperative relationship between the latter and a sustainable form of technological life: the furtherance of semiotics. To this end, we started by providing a few historical and philosophical references to help us better understand the problem at stake. Next, we described how beings gain semiotic access to reality, the distinction between the realm of semiotic beings and of machines, and the infinite character of the study of semiotics. Finally, we concluded that the realm of semiotic beings is still, despite technological advances, exclusively human.

Keywords: Awareness; Evolution; Humans; Machines; Semiotics.

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Background

The twentieth century marks a shift from modernity to postmodernity. This transition occurred at the same time as semiotics broke through the frontiers of what seemed to be the full range of sciences and integrated them into a new paradigm, positing that objectivity is born out of interpretation, making it impossible to disentangle what is cognized from its cognition. If so, it is impossible to uncouple awareness of any object from how it is interpreted. Interpretation occurs by means of signs. The very openness that makes interpretation via signs possible also leads to a vague and fallible understanding of reality. Like all animals, humans are semiosic: humans do live on, within, and are themselves signs. However, at the same time, humans are also aware of themselves as signs. In the bosom of the animal kingdom, there is no awareness of the infinite network of triads other than that of humans, making humans the only semiotic beings on Earth. Semiotic beings are creatures who both participate in and are aware of universal semiosis. The intelligence of semiotic beings, caught up in a seamless process over which they cannot gain complete critical control, is activated amidst a flux of signs. That is exciting news since if it were not so, then knowledge could no longer be cultivated. Semiotic beings are aware of "objective reality," that is, the semiosphere or the universe as a boundless web of triplets or triadic sign relations. Many semiotists, in the wake of Peirce (1839-1914), have never given up on this premise. They insisted that the sign is triadic because such a proposal enables us to comprehend the phenomenon of meaning (Deely, 2009, pp. 158–59). Let us list three of Peirce's definitions of the sign, respectively written by him *circa* 1906, 1908, and 1910:

- *a)* "a *medium* [for the communication of a Form], (...) essentially in a triadic relation, to its Object which determines it, and to its Interpretant which it determines." A Form is what is "communicated from the Object through the Sign to the Interpretant" (Peirce, 1998, p. 544);
- *b)* "anything which on the one hand is so determined by an Object and on the other hand so determines an idea in a person's

mind, that this latter determination," *i.e.*, what he terms "the *Interpretant* of the sign," is thus "mediately determined by that Object." Therefore, a sign has "a triadic relation to its Object and to its Interpretant" (Peirce, 1931-1958, para. 8.343);

- *c)* "anything whatever, real or fictile, which is capable of a sensible form, is applicable to something other than itself, that is already known, and that is capable of being so interpreted in another sign," which Peirce designated the Interpretant of the sign, as to "communicate something that may not have been previously known about its Object." That being the case, there is "a triadic relation between any Sign, an Object, and an Interpretant" (Peirce, 2019).

Such insight was top-notch, although by no means original with Peirce, who chiefly gleaned it from the Coimbra Jesuit Course (Deely, 2009, p. 159; see also Junqueira, 2020). The Coimbra Jesuit Course (henceforth CJC) were published in Coimbra and Lisbon and sums up over three thousand pages, 73% of which are concerned with natural philosophy (Carvalho, 2018b, pp. 73–74). The CJC is a set of eight volumes[1] Written by Manuel de Góis (1543-1597), Sebastião do Couto (1567-1639)—the author of the volume on logic (Couto, 1606), which contains the first systematic 17th-century treatise on semiotics (Carvalho, 2019a)—, Baltasar Álvares (1560-1630), and Cosme de Magalhães (1551-1624). Even though the latter were Jesuit priests who were very knowledgeable of theology, the CJC undividedly dealt with philosophy, aiming at commenting on Aristotle's (384-322 BC) works and thoughts. These commentaries were designated for the philosophy syllabi of the numerous colleges of the Society of Jesus, from the Atlantic to the Urals, China, and Brazil. When those four Jesuits composed the CJC, "to philosophize in the school of Aristotle was to have access to the most cutting-edge knowledge" (Carvalho, 2019b). Moreover, even nowadays, to learn from the school of Álvares, Couto, Góis, and Magalhães is to be *au courant* with the most sophisticated philosophical teachings. Such an up-to-date realization that all thought is in signs, making it less complicated for us to grasp that all objects are objects signified, was formulated by the Coimbra school during the turn towards modernity (Deely, 2009). It must, however, be noted that one should be significantly careful not to attribute first occurrences in intellectual history to the Coimbra

scholars without double-checking the works of preceding philosophers such as their educator Pedro da Fonseca (1528-1599)—co-named "Portuguese Aristotle" (see Coxito, 2005, p. 14; Martins, 2019)—and the *maestros* of the Salamanca school, particularly the Segovian Domingo de Soto (1494-1560) (Mário S. de Carvalho, personal communication, April 28, 2020; see also Deely, 2004, p. 42). The critical philosophical instruction is that all objects are objects signified or simply "significates." Not everything is significate, but every object is. What is more, saying "significate" is to put clearly what "object" means in an ambiguous and perplexing manner (Deely, 2009). It may, therefore, occur that, at times, the use of "significate" rather than "object" is adopted.

Semiotic Access to Reality

Peirce encountered the road to semiotics, *inter alia*, due to the Coimbra school. By and large, what the former read in the Latins before his time ran out in 1914 dramatically altered his philosophy and thus set the pace for the growth of a significant body of 20th and 21st centuries philosophical outputs. A turn was taken in Iberia in the sixteenth century within the Latin discussion about approaching the phenomena of meaning. The decisive realization came progressively in the 16th and 17th centuries through the works of Soto, Fonseca, the Conimbricenses, and others. Let us cite in length what the Semiotist, a character in a fictional philosophical dialogue written by Deely, said:

> This realization was twofold. One part lay in [1] the insight that not relation as such, but relation as triadic, constituted the being of the sign, while the sensible element (or, in the case of the formal sign, the psychological element) that occupied the role of other-representation is what we call a 'sign' in the typical, loose way of speaking. The other part lay in [2] the insight that not anything about relation as suprasubjective determines whether it belongs to the order of *ens reale* or *ens rationis*, but wholly and solely the circumstances of the relation. Whence the same relation, under one set of circumstances *ens reale*, by change of those circumstances alone could pass into an *ens rationis* without any detectable objective difference in the direct experience of the animal (2004, pp. 41–42).

In this [1] sense, positing that all signs, as such, form a threefold ontological network, Peirce has developed his theory of categories, comprehending "firstness," "secondness," and "thirdness." What may seem like a sort of number three obsession reaches far beyond that: it is about grasping the meaning of the whole experience, as much as laying the ground for interpreting, based on a categorical doctrine that can embrace all phenomena, each and every experience as such. There is much more to the three categories than mere numerical values (Sonesson, 2019). Regarding the nature of the strictly formal relation identified between the categories of consciousness, the ordinal ordering of the categories serves the purpose of specifying the mode of being of the phenomena of consciousness from the viewpoint of relative value in a series. In such a way, the value of the phenomena of consciousness varies according to the role played by the different categorical universes vis-à-vis one another. Firstness is not dependent on anything other than itself, and it is the beginning of the series; secondness relies on firstness since a process of inception takes place from it; thirdness lies in the mutual functioning of firstness and secondness, that is, in that while firstness is active, secondness is passive. In the categorial series, the categories' nature is indicated so that the preceding categories are assimilated into the subsequent ones but do not cease to function as separate and relatively self-contained categories. Both firstness and secondness emerge as conditions of possibility for thirdness. Even so, any continuity between any firstness and any secondness is established in thirdness. Thereby, this series should be interpreted both in an upward and a downward orientation: in the upstream track, the nether category is a condition for the emergence of the one immediately above; in the descending direction, once the series is completed and a mind that consists of its very own experience becomes fully aware of it, the cause for the upward conditioning is revealed (Pires, 1993). Still reading Peirce, one must conclude that, after developing such a theory of categories, it is not possible to conceive of *what is—i.e.*, to think maturely enough as to construct a fact according to the *secondness*, that is to say, conditioned by the actuality of action and reaction—without it entailing a determination of thought gradually advancing in extent in an endless course bound by the interval that intermediates between both furthest points of bottomless *firstness* and all-pervading *thirdness*, that is to say, between a total impression and the regulating principles for the recognition of the thought process itself (Pires, 2011). Regarding the

other insight [2], the following may give us a hand in clarifying: *ens reale* denotes beings, mind-independent realities, while *ens rationis* stands for non-beings, mind-dependent realities. Semiotic beings are those who can map out the difference between *ens reale* and *ens rationis* and are thus said to be capable of awakening to the scrambled and perplexing nature of experience, meaning the only living beings capable of mediating between *what is* (mind-independent) and *what is not*, according to the circumstances of the sign relations involved in any given situation. However, interpreting signs involves too many irons in the fire, and so the first challenge in accessing reality semiotically is that there are plethoras of available avenues to explore. To conceive of *what it is* is to access reality semiotically. Such access is

- sparked by firstness or, in other words, undiluted feelings or isolated impressions;
- occurs through secondness, that is to say, facing resistance, enduring stress, experiencing lack of purpose, or even stumbling upon worthless relations;
- rests upon thirdness, meaning that the rule of mind is unleashed, *i.e.*, the harshness of the facts is either frayed or outstripped, while minded/mental aspects are induced into relations.

In order to verge on significates inside out, in their interdependence and interrelatedness, semiotic beings would have to attain impeccable semiotic access to reality, leading to a situation where there would no longer be any relevance whatsoever in distinguishing objective and physical realities. Here, "objective reality" is in contrast—thus closely connected—to the "physical reality." Not long ago, this distinction was employed in illustrating the possibility of a law enforcement officer catching someone regardless of whether the former is acting in an area of his/her jurisdiction. The entire example (Deely, 2009, p. 173) is worth paraphrasing. A law enforcement officer's powers are as physical as they are objective, and the confines of each are beyond that of the other. The officer is carrying a firearm, holding a club, and being trained to subjugate others in bodily ways. The fact that the law enforcement powers cease at the border remains a "purely objective reality," susceptible to being met or not. The feet of an officer do not become stuck to the ground as soon as the officer hits or crosses a border. Regardless of whether the officer's authority ceases beyond a frontier, the officer remains physically qualified to hunt and subdue.

In this instance, observing the fragile thread linking physical and objective realities is reasonably straightforward. The eminent value of reaching reality semiotically is plain to see in a letter that Peirce wrote to Lady Victoria Welby-Gregory (1837-1912) in 1904, where the following can be read: "the highest grade of reality is only reached by signs; that is by such ideas as those of Truth and Right and the rest" (Peirce & Welby, 1977, p. 23). In a letter written *c.* 1906 to Ferdinand Canning Scott Schiller (1864-1937), Peirce (1931-1958, para. 8.332) declared that signs act "to render inefficient relations efficient" by fixing habits—*i.e.*, laws, which Peirce takes to be "habits that we must impute to nature" in order to "render it scientifically intelligible" (Fernández, 2010, p. 3)—, by which such relations will act or tend to act if necessary. Correspondingly, the ultimate purpose of Couto's *doctrina signorum,* according to Carvalho (2019a)**,** is "to make reality, as a whole, semiotically accessible to humans." In other words, the impetus of Couto's semiotics is to ground reality on scientific interpretation, thus equating *what is* with intelligibility and granting semiotic beings with downright semiotic awareness, *i.e.*, the possibility to fully penetrate reality via *signa*.

Semiotic Beings and Machines

We were born into a world already constituted, which is apparently continually undergoing reconstruction. However, it is indeed a total impression of the beginning of time that one should speak when referring to the coming of each and every one of us into the world. The world seems fresh, and we have the impression of being free when we are young. Nevertheless, it is whenever this putative freedom finds resistance, such as in conflicts or in being forced to behave in one way or another, that we draw from the lessons of experience (Peirce, 1991). As time goes by, we are becoming increasingly aware of the prolongation of time. However, what are we talking about when we speak about us? This "us" refers to nothing other than human beings. Indeed, this does not sound like saying anything or saying far too much. However, we mean this: us, the one semiotic animal upon the Earth. It turns out that things just got more complicated: while the term "animal" is not, by and large, the source of significant misunderstandings in any ordinary chat, the same is not valid about "semiotic." After what was said, it might have occurred that voices were raised expressing some indignation: why resort to such awkward

terms? Was there a reason why they were made up? The inquiry is fair, the mood is comprehensible, and fortunately, the response is straightforward: yes, but there is more to it:

> It is an old problem: By using familiar terms in an unfamiliar way, one upsets the hearer; by inventing entirely new terms, one risks losing the hearer completely. Yes, there is no alternative to getting new ideas across: one must either use old words in new ways or invent new words (Deely, 2010, p. 14).

Humans are semiotic beings. How did we come to understand this concept? "Semiotic" relates to semiotics: the study of semiosis. Traditionally, semiosis amounts to the phenomenon that differentiates between inanimate objects and life forms. Specifically, semiosis is conceived as an instinctive capacity of every living organism (Sebeok, 2001). Hence, semiotics stands a chance of being taken for a phenomenological doctrine or study of the common instinctive capacity of all living organisms, i.e., that of the production and comprehension of signs. Still, although it is possible to pinpoint the universal significance that the phenomenon of semiosis entails in the realm of life, it remains no less the case that semiosis can no longer be described in terms of its biological scope, same as its instinctual status.

Likewise, semiotics cannot be limited to biosemiotics: lifeless significates, such as machines, can also perform semiosic operations; that is, machines are also capable of producing and understanding signs. Those are semiosic (not *semiotic)* machines. Nevertheless, only humans are aware of semiosis. At least until some being, other than humans, whether or not an animal, attains awareness of semiosis—i.e., a metasemiotic consciousness—it must be the case that humans remain the only semiotic beings on Earth. Such does not simply constitute a privilege but a defining trait of humankind. This will always hold true unless the day comes when the state of science becomes such that it will no longer be possible to ignore the existence of other living, meta-semiotically conscious beings. Suppose a machine is ever to become meta semiotically conscious, i.e., a semiotic being (aware of semiosis), rather than an inanimate object. In that case, it must not just be turned on; it has to be alive. Information technology has evolved so far that it has already been reported that the time of semiotic machines has come. Some machines, Nadin (2007, p. 64) said, "turn out to be semiotic machines operating in a universe of

clear-cut distinctions between Truth and False (conveniently symbolized by 1 and 0)" (Nadin, 2007, p. 64). Nadin continued:

> As we know by now, computers are the unity between a language consisting of only two letters and the logic describing the relation between any statements in this exact but minimally expressive language. It is undoubtedly a case of reductionism, from natural language to one of the strictest mathematical formalisms. However, the threshold between the materially embodied machines of the Cartesian viewpoint and the first immaterial machine is also the threshold. This machine processes not things but information, representing "in some form or capacity" (to allude to Peirce's sign definition) things, or even, as our knowledge advances, information about a lower level of information and so forth (ad infinitum).

Nadin's "semiotic" machines are actually "semiosic," as there are no signs that machines are meta-semiotically aware. Semiotic awareness has hitherto only been achieved by animals, more precisely humans. Beyond the advent of a semiotic machine, awareness of semiosis should likewise unfold and be developed by a technological being. Moreover, semioethical responsibility would cease to be a strictly anthroposemiotic affair. Inanimate objects have been acquiring a certain autonomy, which entails life risks and opportunities.

A prime example is the realm of machines, where autonomy gains have been enormous. Indeed, the capacity of machines to make decisions with an apparent degree of autonomy and awareness is progressively increasing. By means of human interventions, some inanimate objects are said to have begun to learn, to have resources for observing and analysis, just as for researching further. We are free to imagine

> Machines that would refuse to kill on command if this causes too many casualties—humans or animals. This means these machines would act against the will of the warlords or warladies. (...) [Machines] can have duties in a certain sense. They can make ethical decisions; if they do so, they have to do so in a certain way. We cannot sue them or make them liable, but we can shake our heads and tell them they made a mistake (through our own failure). Then, we can help them to better fulfill their duties (Bendel, 2013, p. 108).

The critical thing Bendel is telling us is that the creation of machines by humans cannot be halted; that is to say, it is still ongoing. Creation remains a philosophical keyword. "Creation" is so fundamental that it may well go as far as being regarded as synonymous with "education." For instance, the Portuguese language translates "to raise children" into "criar crianças" as well as to "educar crianças". Children are semiotic beings. The lack of regulation in children's spontaneous development calls for education. Can it be said that machines make a new sort of infant who requires educational care? If they do make, they do require. If that is the case, what role should humans play? Educating is creating a virtual realm of action within each learner to help them be better prepared for future challenges. The mission of education consists of enabling each child to attain adulthood (Coimbra, 2009). However, has the time come for machines to be brought into education, no longer as means but as learners? There have been far-reaching shifts in the understanding of machines over the centuries, and it remains fickle at this point. A catalog of illustrations can be found to exemplify various ways of conceiving what a machine is: hammers, chronometers, motors, automobiles, planes, computers, etc. Along the times, machines have been helpful for humans to achieve specific goals, mediating the relationship between time and humans and transforming different sorts of energy into mechanical power.

Moreover, machines have been built and used for transportation, as well as for the sake of communication. Fickle as it may be, the understanding of machines has been based on machines' role in pursuing human goals. The roles that inanimate objects have played throughout history are countless, and the types pertaining to the realm of machinery encompass a wide variety of significates (Haken, 1993, p. 124). Now, even software is being integrated into the ensemble: "Lines of code are already being referred to as a machine, causing even more confusion whenever we see the word" (Gospodinov & Skene, 2018). What if there was a semiotic machine, a living technology aware of semiosis and thus of itself and other beings? Were there to be a semiotic machine, the label "technological singularity"—*i.e.*, a unique, one-by-one, separate, individual living technological being aware of semiosis—would painfully fit. A poor application of "technological singularity," as some sort of "point in time described as an intelligence explosion, a time when super-

intelligent machines create even more intelligent machines" (Andersson & Elf, 2015, p. 8), has been popularized. However, a technological singularity cannot be more plausibly imagined as some "point in time" than as a creature: a living technology or, more specifically, a machine capacitated with metasemiotic consciousness. Humans would have to rise to the occasion as inventors of the new creature. With the semiotic machine, semiotic animals would share the until then lonely domain of semiotic beings. However, would coexistence be possible between semiotic animals and the technological singularity?

The Endless Growth of Semiotics

If it were to become real, the technological singularity would prove to be the ultimate innovation of the science and technology movement in the whole history of human evolution until then. Suppose a semiotic machine would behave in a way that is similar to that of most living creatures. In that case, it is not unreasonable to suggest that its primary concern would be to ensure the continuation of its own vitality. For a technology to manifest this sort of concern, its consciousness would have to open up to its very life: the machine would be aware of its situation as being-in-time. It is essential to recognize now the worth of asking what would be the situation of a possible technological singularity in the world. One thing is sure: like humans, the semiotic machine would be able to face the unlimited challenges posed by semiotics, which is equivalent to studying semiosis, an infinite process:

> Infinite process, repugnant in physical explanations concerned with accounting for how the interactions of finite beings as such bring about this or that condition, is the normal condition with signs (...) The human individual wakes up intellectually in the middle of a river of signs, mostly hidden behind, below, and within the objects they present as "the way things are" (...) From the individual's point of view, there is neither a beginning point to the process in the past nor a foreseeable end to the process in the future (Deely, 2001, p. 644).

For the moment, the growth of semiotics depends only on humans. As already mentioned, semiotics is nothing but the study of semiosis. Semiosis stands for the semiosphere, the infinite nature of the

universe. Whoever studies semiosis handles signs, how they act, and their systems. Signs, their actions, and their systematic interactions should not exceed the reach of the awareness of a semiotic being. Signs are all forms capable of representing, through whatever media, a referent, such as any significate or a realm of reference, like a class of significates. Signs enable semiotic beings to recognize patterns and function as guides to predicting future events or planning to take action (Sebeok, 2001, p. 3).

In order to study the relations among signs and their circumstances, that is, to conduct a study on semiosis, semiotic beings do not need to reinvent the wheel but rather engage in interpretation. Abdullahi-Idiagbon (2009, p. 118) states that interpretation is "a meaning-investing mechanism which relates a sign form to a familiar system of conventions or concepts." Investing meaning is breeding signs. To begin with, it is enough to think of the word "dog," which has evolved from the Old English "docga." These terms provide an example of signs bred by humans. "Dog," same as "docga," is the case of a verbal sign representing a relatively limited array of referents. Let us give the least remarkable example: the word "dog," in a somewhat casual sense, may be employed to portray someone. That is, if the intention is, for instance, to be offensive, to mark him/her as cynical, or to emphasize his/her treacherous or submissive conduct. Think about other circumstances: it is possible to employ the term "dog" to represent canidae; in the case of felidae, the word "dog" might have never been used. "Dog" is also suitable to stand for the Portuguese word "cão," the Russian "sobaka (собака)," and the German "hund," but never the Greek "papagálos (παπαγάλος)," the Polish "papuga" or the Finnish "papukaija." Signs are thus a part of what concerns every semiotic being on a daily basis, something with which every human animal is intimately acquainted. If not, who would know what to look for when trying to find a way out into the highway? How else would it be possible to tell which plane to take to Tehran? Or, to give three further examples, how could anyone flirt, dial a phone number, or browse the Web? A sign is whichever represents anything the sign itself is not. Anything whatsoever? That is a reasonable question. No more than introducing a reply requires more profound insight. To illustrate some of the stuff to be included in the realm of "sign:" memoirs, schemata, animal grunts, winking, finger pointing, concepts, letters, numerals, words, sentences, imagery, and more. In a word, a sign is

> Whatever, be it in the physical universe, be it in the world of thought, that, whether embodying an idea of any kind (and permit us throughout to use this term to cover purposes and feelings), or being connected with some existing object, or referring to future events through a general rule, causes something else, its interpreting sign, to be determined to a corresponding relation to the same idea, existing thing, or law (Peirce, 1998, p. 326).

"*Signum est quod potentiae cognoscenti aliquid repraesentat*," meaning that a sign is whatever represents something to a knowing power (Couto, 2001, p. 38). However, signs alone are unable to represent something to a knowing power. For a correct interpretation of a sign, its interpreter must possess some background that enables him/her to pinpoint the significate of such a sign (Lane, 2014, p. 72). Whenever signs stand out, there are objects to be found. It is no less true that if there are objects, there must be signs. A sign is what each and every significate entails (Deely, 2004, p. 4). Otherwise, we could not, for example, see *a door*, imagine *a door*, tell whether *a door* is brown, green, or yellow, or even sigh at the phrase "home, sweet home," as many do while gazing at *a door*. Here is the thing: without signs, such as the words "dog," "love," "justice," or even "sign," it would be impossible to even think, for even thinking, just like all experience, springs from semiosis.

Conclusion

This way, a lamp is left lit along the complex path towards noticing what it means to say that the human being is a semiotic animal: humans are nothing but animals that differ from all other animals by their being aware of semiosis and thus capacitated for studying signs, their actions, and the systems they form. Hence, human animals are different from all other animals, though humans would not be distinguishable at the same level from a possible semiotic machine. Every living being produces and is capable of recognizing signs of some type. Signs that animals produce and are aware of may be simple, like a sneeze or a racing heart. Meanwhile, there is the production and understanding of more demanding structures within semiotic life, encompassing symbolic dimensions such as speech. Signs enable each semiosic being to flag its existence, share messages among its own species, and shape or regulate incoming information

from the outer world. Living beings may be aware of their being situated within the semiosphere and able to lead a more or less accountable role. Semiotic beings can act globally, aware of their own doings, how they are acting, for what purpose, and so forth. Thereby, semiotic beings function as signs of themselves to others as well as to themselves, being at once self-aware and conscious that there is a whole world of signs which allows an awakening to the fact that "there are signs upon which the whole of life depends for successful continuance" (Deely, 2010, p. 40). Humans will plausibly remain the only beings mindful of semiosis, that is, meta-semiotically aware. Metasemiotic consciousness is the special development whereby beings became sensitive to signs being signs, just as to the role played universally by signs in all forms of knowledge and experience. For such a reason, the responsibility of semiotic beings is not exhausted in strictly human interplay. Semiotic beings are semioethically responsible, *i.e.*, accountable for the whole semiosphere. Classifying a being as semiotic is to assume that such a being relates carefully or semiotically with the actual way it inhabits the vast world of signs from which it stems and evolves. Semiotic awareness stands for the fact that semiotic beings consciously relate to signs. Semiotic beings entwine with and consciously partake in the semiosphere. Such a way of relating to signs would be what humans and the technological singularity would share in common. Signs are, as has been suggested, in triadic relation to the objects they stand for and the knowing power to which signs represent objects. Two elements would suffice for there to be a relation. However, sign relations are irreducibly triadic, occurring between a given sign representing a given object to a mind, the object as it is conveyed to the mind by the sign, and the said mind as bridging the sign-object relation. Semiotic beings have nature at hand, on watch, or at their disposal, thanks to a "grammar" embedded in the semiosphere (Deely, 2010, p. 15). Such grammar represents the exact domain to be recognized, understood, mastered, and, in short, taken care of by semiotic beings. Observance of this universal grammar on the part of semiotic beings is a precondition for setting principles for distinguishing between careful and careless resource exploitation. The reason why a semiotic being becomes semioethically responsible is the acknowledgment of the infinite extent of the jurisdiction of responsibility. Each experience is, from the outset, determined by previous interpretations. Semiotic beings are the ones capable of worrying about and understanding the future, prioritizing it

in one respect or another over the present day. The only ones who can read and interpret signs inventively, aiming at printing new directions in the development of the semiosphere, are also semiotic beings. Semiotic beings belong to a universe whose continuity could ultimately depend upon whether such beings can reasonably evaluate signs, their actions, and the systematic relations between signs. The fundamentally distinctive thing about semiotic beings is that they turn semiosis into a sign and are mindful that relations are prone to be handled regardless of whatever such relations involve. As semiotic beings, humans can derive or discriminate structures that simultaneously underlie and result from producing or comprehending meaning. A semiotic being has to be aware that structures of meaning are prone to be reproduced as models. Models of this kind may be successfully applied to different objects, such as textual, visual, odorous, gestural, musical, mathematical, and mental objects. Metasemiotic awareness reveals what is invisible, untouchable, scentless, inaudible, and tasteless. Thus, the study of semiosis comes with the uselessness of the senses to handle what is needed to develop it. Such is a most promising backdrop for the advent of technological singularity. Interestingly, metasemiotic awareness fails to reveal something inconceivable: the semiotic machine should be under death's wing. That way, humans would cease to be the only creatures able to learn their way out of this world. Until when the realm of semiotics will remain that of one single species is a question to which we cannot reply.

End Notes:

1. Góis, 1592; see Carvalho, 2018e; Góis, 1593b; see Carvalho, 2018f; Góis, 1593c; see Carvalho, 2018d; Góis, 1593a; see Carvalho, 2018c; Góis, 1593d; see Carvalho, 2018h; Góis, 1597; see Carvalho, 2018g; Góis, Álvares, & Magalhães 1598; see Carvalho, 2018i; Couto, 1606; see Carvalho, 2018j & 2018a.

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