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Semiotics after Sebeok

Abstract:

Thomas A. Sebeok was the first to point out that semiotics is “global semiotics”, because all life-forms depend upon the action of signs (semiosis). From this perspective, semiotics is the development of the human capacity for becoming aware of semiosis — for metasemiosis. As the only semiotic animal on earth, the human being is responsible for the whole of life: semiotics entails responsibility. The semiotician must become also a “semioethician”, as we come to realize that life on our planet is in serious danger before the destructive character of national socio-economic behaviors today. So far as a species we have failed to recognize that the individual and collective identity of all living beings on the planet are bound up in the same communicative destiny which semiosis creates and semiotics studies. This paper argues that the distinction between *difference of signs* and *signs of difference* brings needed clarity to the problem.

1. *Global semiotics, global communication, and responsibility*

In semiotic terms, we may distinguish between *difference of signs* and *signs of difference*. In the first sense, identities of all signs are identities inseparable from other signs; and difference is a *renvoi*, the reference of one sign to another sign in an infinite semiotic chain. This is the *difference of signs*. In the second sense, the sign is a means to indicate an identity, where signs become *signs of difference*.

In our world of global communication, individual and collective identities are conceived as separate and self-sufficient identities; and if they are considered to be connected in some way, such interconnection is conceived to be based on the signs of difference, that is, on such signs as sexual, ethnic, racial, national, religious, cultural, territorial, historical signs (a common belonging, a common past, a common tradition). We know that the disastrous consequence of the mystifying ideology of identity according to which signs are signs of difference, is war.

Peace is an illusion if it is not founded on the consciousness that all individual and collective identity of all human beings and of all living beings on the planet is implied in the same destiny.

Such consciousness is possible thanks to Thomas A. Sebeok's global semiotics.

Global semiotics is an important instrument for the study of signs today, given that the world we inhabit is the world of global communication. Global semiotics, which identifies the study of signs with the study of all life forms over the planet, is the historical development of the human capacity for semiotics, that is, for metasemiosis, and, consequently, for consciousness and a critical approach to signs. As a semiotic animal, every man has responsibility for the whole of life, that is, for the whole of semiosis, for all living beings on Earth, this being all the more reason why such responsibility concerns semiotics as a general science of signs and the semiotician as a semiotician (cfr. Deely, Petrilli, Ponzio 2005). And consciousness of such responsibility is today very important given that semiosis on the planet, that is life, is in serious danger in the face of the destructive character of the human world of global communication today.

Semiotics after Sebeok has emerged as "global semiotics". According to the global semiotic perspective, signs and life coincide, and semiosis means behaviour among living beings.

As said Lévi-Strauss,

A lire les ouvrages de Sebeok, on est confondu par sa familiarité avec les langues et les cultures du monde, par l'aisance avec laquelle il se meut à travers les travaux des psychologues, des spécialistes de neuro-physiologie cérébrale, de biologie cellulaire, ou ceux des éthologues portant sur des centaines d'espèces zoologiques allant des organismes unicellulaires aux mammifères supérieurs, en passant par les insectes, les poissons et les oiseaux. Ce savoir plus qu'encyclopédique se mesure aussi aux milliers de noms d'auteurs, de langues, de peuples et d'espèces composant les index des ouvrages écrits ou dirigés par lui, et à leurs énormes bibliographies. (Lévi-Strauss, « Avant Propos » in Bouissac, Herzfeld, Posner 1986: 3)

The first part of our book, by Susan Petrilli and myself, *Semiotics Unbounded* (2005) is entitled "Semiotics and Semioticians". Quite a lot of this part is devoted to Sebeok's global semiotics.

For Sebeok semiotics is more than just a science that studies signs in the sphere of socio-cultural life, "la science qui étudie la vie des signes au sein de la vie sociale" (Saussure 1916: 26). Before contemplating the signs of unintentional communication (semiology of signification), semiotics was limited by its exclusive focus on the signs of intentional

communication (semiology of communication). These were the main trends in semiology following Saussure. Instead, semiotics after Sebeok is not only *anthroposemiotics* but also *zoosemiotics*, *phytosemiotics*, *mycosemiotics*, *microsemiotics*, *machine semiotics*, *environmental semiotics* and *endosemiotics* (the study of cybernetic systems inside the organic body on the ontogenetic and phylogenetic levels). And all this takes place under the umbrella term of *biosemiotics* or just plain *semiotics*.

In Sebeok's view, biological foundations, therefore biosemiotics, are at the epicenter of studies on communication and signification in the human animal. From this point of view, the research of the biologist Jakob von Uexküll, teacher of Konrad Lorenz and one of the *criptosemioticians* most studied by Sebeok, belongs to the history of semiotics.

Sebeok's semiotics unites what other fields of knowledge and human praxis generally keep separate either for justified exigencies of a specialized order, or because of a useless and even harmful tendency toward short-sighted sectorialization. Such an attitude is not free of ideological implications, which are often poorly masked by motivations of a scientific order.

Biology and the social sciences, ethology and linguistics, psychology and the health sciences, their internal specializations – from genetics to medical semiotics (symptomatology), psychoanalysis, gerontology and immunology – all find in semiotics, as conceived by Sebeok, the place of encounter and reciprocal exchange, as well as of systematization and unification. All the same, it must be stressed that systematization and unification are not understood here neopositivistically in the static terms of an “encyclopedia”, whether this takes the form of the juxtaposition of knowledge and linguistic practices or of the reduction of knowledge to a single scientific field and its relative language, for example, neopositivistic physicalism.

Sebeok develops a view that is global thanks to his continual and creative shifts in perspective, which favours new interdisciplinary interconnections and new interpretive practices. Sign relations are identified where, for some, there seemed to exist no more than mere “facts” and relations among things, independent from communication and interpretive processes. Moreover, this continual shifting in perspective also favours the discovery of new cognitive fields and languages, which interact dialogically (cf. Bakhtin 2008). They are the dialogic interpreted-interpretant signs of fields and languages that already exist (cf. Ponzio 2004a, b, c). In his explorations of the boundaries and margins of the various sciences, Sebeok dubs this open nature of semiotics “doctrine of signs”.

Developing and specifying Peirce's idea that the entire universe is perfused by signs, Charles Morris recognized that semiotics could be extended to the organic in its wholeness: for there to be a sign there must be interpretive activity by the living organism.

Thomas Sebeok, following Morris, further develops this thesis declaring that the entire life sphere is made of signs. This means that even a microorganism, for example a cell, flourishes insofar as it interprets signs. Sebeok extends the boundaries of semiotics to a maximum proposing what he calls "semiotics of life" or "global semiotics". Anthroposemiosis is only a small part of this. And within the sphere of anthroposemiosis an even smaller part is represented by verbal language. Even human beings, like all other members belonging to the sphere of zoosemiosis, communicate above all through nonverbal signs. Furthermore, let us add that the basis of all voluntary communication is formed of endosemiosis processes like those relative to the immunitary and neural systems.

In spite of an orientation toward totalization characteristic of semiotics, Sebeok in *Contributions to the Doctrine of Signs* uses neither the ennobling term "science" nor the term "theory" for his own approach. Instead he privileged the expression "doctrine of signs", adapted from John Locke who maintained that a doctrine was no more than a body of principles and opinions vaguely forming a field of knowledge. He also used this expression as understood by Charles S. Peirce, that is, as charged with the instances of Kantian critique. In other words, not only did Sebeok invest semiotics with the task of observing and describing phenomena, in this case signs, but even more significantly, he believed that semiotics was to interrogate the conditions of possibility of signs which are characterized and specified for what they are — as they emerge from observation which is necessarily partial and limited —, and for what they must be (cf. Sebeok's Preface to *Contributions to the Doctrine of Signs*). This at once humble and ambitious character of the "doctrine of signs" leads to interrogation *à la Kant* concerning its own conditions of possibility: the doctrine of signs is the science of signs which questions itself, attempts to answer for itself, and researches into its own foundations.

Sebeok has extended the boundaries of traditional semiotics or more correctly semiology which is restrictively based upon the verbal paradigm and vitiated by the *pars pro toto* error. He tagged this conception of semiotics the "minor tradition" and promoted instead what he called the "major tradition" as represented by Locke and Peirce and early studies on signs and symptoms by Hippocrates and Galen. Semiotics, therefore, is at once recent if considered from the viewpoint of the determination of its status and awareness of its wide-ranging possible applications, and ancient if its roots are traced back at least, following

Sebeok (1979) to the theory and practice of Hippocrates and Galen. After Sebeok's work both our conception of the semiotic field and of the history of semiotics have changed noticeably. And thanks to him semiotics at the beginning of the new millennium is proposing a radically broader view than that presented during the first half of the 1960s.

In addition to the general science of signs, the term "semiotics" is used by Sebeok most significantly to indicate *the specificity of human semiosis*. This concept is proposed in a paper of 1989, "Semiosis and semiotics: what lies in their future?" (see Sebeok 1991b, chp. 9), and is of vital importance for a *transcendental founding of semiotics* given that it explains how semiotics as a science and metascience is possible. Sebeok writes:

Semiotics is an exclusively human style of inquiry, consisting of the contemplation — whether informally or in formalized fashion — of semiosis. This search will, it is safe to predict, continue at least as long as our genus survives, much as it has existed, for about three million years, in the successive expressions of Homo, variously labeled — reflecting, among other attributes, a growth in brain capacity with concomitant cognitive abilities — *habilis, erectus, sapiens, neanderthalensis*, and now *s. sapiens*. Semiotics, in other words, simply points to the universal propensity of the human mind for reverie focused specularly inward upon its own long-term cognitive strategy and daily maneuverings. Locke designated this quest as a search for "humane understanding"; Peirce, as "the play of musement." (*Ibidem*: 97)

In his article "The evolution of semiosis" (in Posner, Robering, and Sebeok 1997-2004, vol. I), Sebeok explains the correspondences connecting the branches of semiotics with the different types of semiosis, from the world of micro-organisms to the superkingdoms and the human world. Specifically human semiosis, anthroposemiosis, is represented as semiotics thanks to a species-specific "modelling device" called "language". This observation is based on the fact that it is virtually certain that *Homo habilis* was originally endowed with language, but not speech. Sebeok's distinction between *language* and *speech* corresponds, even if roughly, to the distinction between *Kognition* and *Sprake* drawn by Müller 1987 in *Evolution, Kognition and Sprake* (see Sebeok in Posner, Robering, and Sebeok 1997-2004, I: 443).

Sebeok has shown how of the whole semiobiosphere the human being is the only animal capable of semiotics in the sense that s/he is capable not only of using signs but also of reflecting on signs. In this sense the human being is a rational animal: in the sense that s/he is a "semiotic animal". Susan Petrilli and I have co-authored a book with John Deely with this expression as the title, published in Canada in 2005.

That man is a semiotic animal also means that s/he is the only animal existing that is capable of awareness, of responsibility: s/he is responsible for semiosis over the entire planet,

that is, for life, which unless proven otherwise only exists on the terrestrial globe. Susan and I have already dealt with this issue in a series of earlier writings, in particular in a book of 2003 titled *Semioetica*.

In our book *Semiotics Unbounded*, we refer to another important figure from the twentieth century, Mikhail M. Bakhtin, generally not taken into consideration in semiotic or philosophical circles, and unjustly relegated to the sphere of literary criticism. But in all his writings he continuously repeats, “I’m a philosopher”, he says that his reflections belong to the sphere of philosophy of language. He also qualifies his thoughts in terms of semiotics and metalinguistics. In his writings he continuously critiques the tendency to reduce communicative processes to relations between the sender and receiver and between *langue* and *parole*, as improperly established by Saussure.

A particularly interesting aspect of Bakhtin’s work is his insistence, from his early studies, on the problem of responsibility – he characterizes this interest as “moral philosophy”. Bakhtin established a very close relation between sign and otherness: signs flourish in the relation with others, and require a responsible standpoint towards them, without alibis and without evasion. There is a close connection between Sebeok and Bakhtin. It is not incidental that Bakhtin too has always viewed the biological sciences with great interest (Bakhtin 1926).. In his book on Rabelais he evidenced the inseparability and intercorporeal compromise of all living individuals, including human beings, in organic and nonorganic processes throughout the entire universe.

2. Critique of phonocentrism and anthropocentrism

We all know that Tom Sebeok liked to tell jokes, especially hybrid jokes, besides anecdotes. This was connected with his “professional activity”. In fact jokes, as a rule, are considered as “one form of narration”, hence a type of verbal art, even though they are normally accompanied by various gestural elements as accessories (manual and facial expressions, postures, and the like) which reinforce the facetiousness conveyed by the verbal expressions. But hybrid jokes are narrated, but only up to a point: the climax, and also sometimes several internal punch lines, can be delivered only by means of gestures (cf. Ponzio 2007). Sebeok dedicated an essay to hybrid jokes originally published in *Athanos*, X, 2. 1999/2000, *La traduzione*, edited by S. Petrilli, and now in *Global Semiotics* (2001a).

Why did Sebeok take a “professional” interest in this subgenre of jokes? Because it confirms his critique of phonocentrism, a critique that is topical in his conception of

semiotics, or “doctrine of signs”, as he preferred to call it. All jokes are intrinsically pansemiotic configurations, in which the verbal twist is typically primary. Consequently jokes cannot be conveyed solely by nonverbal means. Instead hybrid jokes, if delivered face-to-face, must be accompanied by appropriate gesticulation. Their humor cannot be satisfyingly imparted in the dark or over the phone. If communicated in script, they must be illustrated by pictorial displays of various sorts. The funniness of the verbal portion of a hybrid joke falls off in proportion to – gestural or pictorial – visual elaboration.

Stressing the species-specific character of human language, Sebeok intervened polemically and ironically with regard to the enthusiasm (which he attempted to cool down) displayed for theories and practices developed for training animals, based on the assumption that animals can talk (cf. Sebeok 1986, chp. 2) Furthermore, the distinction between *language* and *speech* and the thesis that language appeared much earlier than speech in the evolution of the human species add a further element to the critique of phonocentrism.

Human nonverbal signs include signs that depend on natural languages and signs that, on the contrary, do not depend on natural language and therefore transcend the categories of linguistics. These include the signs of “parasitic” languages, such as artificial languages, the signs of “gestural languages”, such as the sign languages of Amerindian (see Sebeok 1979) and Australian aborigines, monastic signs (see Sebeok and Umiker Sebeok 1987) and the language of deaf-mutes; the signs of infants, and the signs of the human body, both in its more culturally dependent manifestations as well as its natural-biological manifestations. The language of deaf-mutes is further proof of the fact that man as a semiotic animal is not the speaking animal but the animal that is endowed with *language*, the *primary modelling device*, as we will see afterwards. It is not true that dogs only lacks speech. Dogs and other non-human animals lack *language*. Instead, the deaf-mute only lacks speech, as a pathology. This means that other non-verbal systems, such as the gestural, can be grafted onto the human primary modelling device. And thanks to these sign systems the deaf-mute is able to accomplish the same inventive and creative mental functions as any other human animal.

Sebeok’s doctrine of signs insists particularly on the autonomy of nonverbal sign systems from the verbal. Such autonomy is demonstrated through his study of human sign systems which depend on the verbal only in part, in spite of the predominance of verbal language in the sphere of anthroposemiosis.

On the original link between gestural language and verbal language the relation between gesture and verbal intonation is interesting, and specifically the important phenomenon of language creativity called “intonational metaphor”. Bakhtin (1926) observes

that an intimate kinship binds the intonational metaphor in real-life speech with the “metaphor of gesticulation”. In fact, the word itself was originally a “linguistic gesture”, a “component of a complex body gesture”, understanding gesture broadly to include facial expression, gesticulation of the face. Intonation and gesture belong to body language; and they express a living, dynamic relationship with the outside world and social environment.

Thanks to Sebeok the science that studies the *semiotic animal*, i.e. the human being – the only animal not only capable of using signs (i.e. of semiosis), but also of reflecting on signs through signs, anthroposemiotics, has today freed itself from *two traditional limitations: anthropocentrism and glottocentrism*.

With regard to the first, anthroposemiotics does not coincide with general semiotics but is a part of it. Semiotics is far broader than a science that studies signs solely in the sphere of socio-cultural life. Semiotics also studies the signs of unintentional communication (semiology of signification); before this it was limited by exclusive preference for the signs of intentional communication, Saussure’s *sémiologie* (semiology of communication). By contrast, semiotics following Thomas A. Sebeok and his “global semiotics” studies communication not only in culture, but also in the universe of life generally. With regard to the second aspect, getting free from glottocentrism, the critique of glottocentrism in anthroposemiotics must be extended to all those trends in semiotics which refer to linguistics for their sign model. Anthroposemiotics insists on the autonomy of non-verbal sign systems from the verbal and also studies human sign systems that depend on the verbal only in part, despite the prejudicial claim that verbal language predominates in the sphere of anthroposemiosis.

To get free from the anthropocentric and glottocentric perspective as it has characterized semiotics generally, implies to take other sign systems into account beyond those specific to mankind.

3. *Language and modelling*

The notions of “modelling” and “interrelation” play a pivotal role in Sebeok’s biosemiotics. “Modelling” and “interrelation” among species-specific semioses over the entire planet Earth are two issues that Sebeok puts at the centre of his “doctrine of signs” – the expression he prefers to “science of signs” or “theory of signs”. Therefore, global semiotics also involves modelling systems theory.

Modelling is the foundation of communication. Communication necessarily occurs within the limits and according to the characteristics of a world as it is modelled by a given species, a world that is species-specific. Jakob von Uexküll speaks of invisible worlds to indicate the domain which englobes all animals according to the species they belong to. What an animal perceives, craves, fears and predated is relative to its own world. Human communication is the most complex and varied form of communication in the sphere of biosemiosis, given that the human is the animal that is capable of modelling multiple possible worlds. Sebeok adapts the concept of modelling from the so-called Moscow-Tartu school, though he enriches it by relating it to the concept of *Umwelt* as formulated by Jakob von Uexküll (see Sebeok 1991b: 49-58, 68-82, and 1994b: 117-127; also Sebeok and Danesi 2000: 1-43).

The study of modeling behavior in and across all life forms requires a methodological framework that has been developed in the field of biosemiotics. This methodological framework is *modeling systems theory* as proposed by Sebeok in his research on the interface between semiotics and biology. Modeling systems theory analyzes semiotic phenomena in terms of modeling processes (cf. Sebeok and Danesi 2000: 1-43).

In the light of semiotics viewed as a modeling systems theory, semiosis – a capacity pertaining to all life forms – may be defined as “the capacity of a species to produce and comprehend the specific types of models it requires for processing and codifying perceptual input in its own way” (*Ibidem*: 5). The applied study of modeling systems theory is called *systems analysis*, which distinguishes between primary, secondary and tertiary modeling systems.

The primary modeling system is the innate capacity for *simulative* modeling – in other words, it is a system that allows organisms to simulate something in species-specific ways (cf. *Ibidem*: 44-45). Sebeok calls “language” the species-specific primary modeling system of the species called *Homo*.

The secondary modeling system subtends both “indicational” and “extensional” modeling processes. The nonverbal form of indicational modeling has been documented in various species. Extensional modeling, on the other hand, is a uniquely human capacity because it presupposes *language* (primary modeling system), which Sebeok distinguishes from *speech* (human secondary modeling system; cf. *Ibidem* 82-95).

The tertiary modeling system subtends highly abstract, symbol-based modeling processes. Tertiary modeling systems are the human cultural systems which the Moscow-

Tartu school had mistakenly dubbed “secondary” as a result of conflating “speech” and “language” (cf. *Ibidem*: 120-129).

On the nonverbal component of semiosis is founded the anthroposemiotic component, which necessarily and additionally implies the species-specific modeling device called by Sebeok “language”. On language is founded speech of the various verbal languages and are founded the various human nonverbal languages. But the common foundation in language does not imply that nonverbal language is similar to verbal language and that the same categories used in linguistics may be used to study nonverbal language.

The historical origin of human verbal and nonverbal signs is in the human species-specific primary modeling device, i.e., in Sebeok’s terminology, language, which was a primary evolutionary adaptation of hominids. Speech developed out of language, and like language made its appearance as an adaptation, but for the sake of communication and much later than language, precisely with *Homo sapiens*, not more than about 300,000 years ago. Only after evolution of the physical and neurological capacity for speech in *Homo sapiens* was speech possible, i.e., use of language for vocal communication. Subsequently, speech developed as a double derivative *exaptation*. Speech was *exapted* for modeling and was to function, therefore, as a secondary modeling system. Beyond increasing the capacity for communication, speech also increases the capacity for innovation and for the “play of musement”. Exapted for communication, first in the form of speech and later of script (Posner, Robering, and Sebeok 1997-2004, 1: 443), language enabled human beings to enhance the nonverbal capacity with which they were already endowed.

Concerning the relation between language and speech, Sebeok remarked that it has required a plausible mutual adjustment of the encoding with the decoding capacity. On the one hand, language was “exapted” for communication (first in the form of speech, i. e., for “ear and mouth work” and later of script, and so forth), and, on the other, speech was exapted for (secondary) modeling, i.e., for “mind work”. “But”, adds Sebeok, “since absolute mutual comprehension remains a distant goal, the system continues to be fine-tuned and tinkered with still” (Sebeok 1991b: 56).

The process of exaptation took several million years to accomplish, the answer seems to be that the adjustment of a species-specific mechanism for encoding language into speech, that is, producing signs vocally, with a matching mechanism for decoding it, that is, receiving and interpreting a stream of incoming verbal/ vocal signs (sentences), must have taken that long to fine-tune a process which is far from complete (since humans have great difficulties in understanding each other’s spoken messages).

The exaptation of speech to modelling implies that speech is forever involved in mind work, in thought. Instead its presence in human communication is not frequent. We may communicate without speech; but it is not possible for our thinking, that is interpreting without speech.

Body languages belongs to the sphere of *anthroposemiosis*, the object of anthroposemiotics. Following Morris's and Sebeok's terminological specifications, semiotics describes sign behaviour with general reference to the organism, i.e., it identifies semiosis and life, and distinguishes between "signs in human animals" and "signs in non-human animals", reserving the term "language" as a special term for the former. In others words, *language is specific to man as a semiotic animal*, that is, as a living being not only able to use signs – i.e. capable to *semiosis* –, but also able to reflect on signs through signs – i.e. capable of *semiotics*. In this acceptance, language is not verbal language alone: "language" *refers both to verbal and non-verbal human signs*. In this view, that is, from a semiotic and not a linguistic perspective (i.e. pertaining to linguistics), *language is not reduced to speech* but speech is a specification of language. Language is acoustic language as much as the gestural or the tactile, etc. depending on the kind of sign vehicle that intervenes, which is not necessary limited to the verbal in a strict sense.

On this subject, the following statement made by Morris seems important:

For though animal signs may be interconnected, and interconnected in such a way that animals may be said to infer, there is no evidence that these signs are combined by animals which produce them according to limitations of combinations necessary for the signs to form a language system. Such considerations strongly favor the hypothesis that language — as here defined — is unique to man. (1946 in Morris 1971: 130)

This means that by comparison with animal signs human language is characterized by the fact that its signs can be combined to form compound signs. It would seem, therefore, that, in the last analysis, this "capacity for combination" is the most distinctive element. This conception is very close to Sebeok's when he states that language (he too distinguishing it from the communicative function) is characterized by *syntax*, that is, the possibility of using a finite number of signs to produce an infinite number of combinations through recourse to given rules.

As we said, body languages includes different sign systems. What is common to these sign system is their common foundation in *language* intended as a *specific human modelling device* (see Sebeok 1991a and 2001c). The connection between verbal language and body

languages largely depends on their common participation in language understood as primary human modelling.

4. Three aspects of the unifying function of semiotics

As emerges from Sebeok's research, the unifying function of semiotics may be considered in terms of three strictly interrelated aspects all belonging to the same interpretive practice characterized by high degrees of abductive creativity:

a) The descriptive-explanatory aspect

Semiotics singles out, describes, and explains signs, that is, interpreted-interpretant relationships, forming events which

a) are connected by a relation of contiguity and causality (indexical relation), and therefore are given immediately and necessarily;

b) or, on the contrary, are associated on the basis of a hypothesized, iconic relation of similarity, despite any distance among these events in terms of indexicality:

(b1) in some cases, the iconic relation mainly results from obeying certain conventions (the iconic-symbolic relation);

(b2) in other cases, the iconic relation mainly results from a tendency toward innovation (the iconic-abductive relation), and not from obeying pre-established convention.

Such interpreted-interpretant relationships are identified not only in thematized objects, but also in the interpretive practices of different sciences.

Consequently, the descriptive-explanatory function of semiotics is also practiced in relation to cognitive processes themselves, in terms of critique in a Kantian sense, therefore of the search for a priori possibilities or conditions.

b) The methodological aspect

Semiotics is also the search for appropriate methods of inquiry and acquisition of knowledge, both ordinary and scientific knowledge. From this point of view, and differently from the first aspect, semiotics does not limit itself simply to describing and explaining, but also makes proposals in relation to cognitive behaviour. Therefore, under this aspect as well semiotics overcomes the tendency to parochial specialisms when this leads to separation among the sciences.

c) The ethical aspect

For this aspect in earlier writings we have proposed the terms “ethosemiotics”, “telo- or teleosemiotics”, and finally “semioethics” (cf. Ponzio 1985; Ponzio et alii 1994; Petrilli 1998, 2003, 2005; Deely, Petrilli, Ponzio 2005). Under this aspect, the unifying function of semiotics concerns proposals and practical orientations for human life in its wholeness (from the overall point of view of its biological and socio-cultural aspects). The focus is on what may be called the “problem of happiness”. This problem is evidently considered to be very important by Herodotus, who early in the first book of the *Histories* narrates the downfall of the last King of Lydia, Croesus, who imagined himself to be the happiest of men.

Sebeok offers his own interpretation of the story of Croesus as described by Herodotus. Lasting happiness was impossible for Croesus because he was incapable of keeping in due account the worlds (and signs) of both his two sons: one was endowed with speech, the other was deaf and dumb, and as a consequence unnamed.

Sebeok’s study, “The Two Sons of Croesus: A Myth about Communication in Herodotus” (in Sebeok 1979), reflects on this third aspect of semiotics which refers to the problem of wisdom as entrusted to myths, popular tradition and literature in certain genres (those described by Mikhail Bakhtin as belonging to “carnivalized literature”, which derive from popular culture). By analogy with the deaf and dumb son of Croesus, let us remember King Lear’s reticent Cordelia, or in *The Merchant of Venice*, the “muteness” and simplicity of the leaden casket – being a sign, contrary to common expectation, that it holds Portia’s image.

Concerning the third aspect of the unifying function of semiotics, particular attention is paid to recovering the connection with what is considered and experienced as separate. In today’s world, the logic of production and the rules that govern the market, where anything may be exchanged and commodified, threaten to render humanity ever more insensitive to nonfunctional and ambivalent signs. These may range from vital signs forming the body to the seemingly futile signs of phatic communication with others. Reconsideration of these signs and their relative interrelations is absolutely necessary in the present age for improvement of the quality of life. Indeed, capitalist globalization imposes ecological conditions which make communication between self and body, as well as with the environment ever more difficult and distorted (cf. “The Semiotic Self”, in Sebeok 1979; cf. also Sebeok, Ponzio, Petrilli 2001). Moreover, this third aspect of semiotics operates in such a way as to connect rational worldviews to myth, legend, fable and all other forms of popular tradition with a focus on the relation of humans to the world about them. This third function is rich with implications for human behavior: the signs of life that today we cannot or do not

wish to read, or those signs of life that we do not know how to read, may one day recover their importance and relevance for humanity.

The study of sign function has often been thought to be sufficient for an understanding of the nature of signs. On the contrary, Sebeok draws attention to problem of the functioning of signs as an end in itself, which represents a sort of excess with respect to the function and purpose of signs. Such excess is visible, for example, in ritual behavior among human beings and animals, but also in language. In fact, beyond its communicative function, language may be considered as a sort of game, in terms of the “play of musement” we might say with Peirce and with Sebeok, without which such activities as imagination, fantasy, or highly abductive reasoning would never be possible (Sebeok 1981).

6. From “substitution” to “interpretation”

According to Sebeok (1994b: 10-14), both the Object (O) and the Interpretant (I) are Signs. Consequently, we may rewrite O as S_{O_n} and I as SI_n so that both the first distinction and the second are resolved in two sorts of signs (see 1994b: 12-13).

In our opinion and in accordance with Peirce who reformulated the classic notion of *substitution* in the medieval expression *aliquid stat pro aliquo* in terms of *interpretation*, *the sign is firstly an interpretant* (cf. Petrilli 1998: I.1).

In fact, the Peircean terms of the sign include what may be called the *interpreted* sign on the side of the object, and the *interpretant* sign in a relationship where it is the interpretant that makes the interpreted possible. The interpreted becomes a sign component because it receives an interpretation, but the interpretant in turn is also a sign component endowed with potential for engendering a new sign. Therefore, where there is a sign, there are immediately two, and given that the interpretant can engender a new sign, there are immediately three, and so *forth ad infinitum* as conceived by Peirce with his notion of *infinite semiosis* or chain of deferrals from one interpretant to another.

To analyze the sign beginning from the object of interpretation, that is, the interpreted, means to begin from a secondary level. In other words, to begin from the object-interpreted means to begin from a point in the chain of deferrals, or semiotic chain, which cannot be considered as the point of departure. Nor can the interpreted be privileged by way of abstraction at a theoretical level to explain the workings of sign processes. For example, a spot on the skin is a sign insofar as it may be interpreted as a symptom of sickness of the liver: this is already a secondary level in the interpretive process. At a primary level,

retrospectively, the skin disorder is an interpretation enacted by the organism itself in relation to an anomaly which is disturbing it and to which it responds. The skin disorder is already in itself an interpretant response.

To say that the sign is firstly an interpretant means to say that the sign is firstly a response. We could also say that the sign is a reaction: but only on the condition that by “reaction” we mean “interpretation” (similarly to Morris’s behaviourism, but differently from the mechanistic approach). The expression “solicitation-response” is preferable to “stimulus-reaction” in order to avoid superficial associations with the approaches they respectively recall. Even a “direct” response to a stimulus, or better solicitation, is never direct but “mediated” by an interpretation. Unless it is a “reflex action,” the formulation of a response means to identify the solicitation, situate it in a context, and relate it to given behavioural parameters (whether a question of simple types of behaviour, e.g., the prey-predator model, or more complex behaviours connected with cultural values, as in the human world).

The sign is firstly an interpretant, a response through which something else is considered as a sign and becomes its interpreted, on the one hand, and which is potentially able to engender an infinite chain of signs, on the other. Consequently, the “ambiguity” of the concept of semiosis discussed in the entry “Semiosis” in *Encyclopedia of Semiotics*, edited by Paul Bouissac (1998), does not concern the term but the phenomenon of semiosis itself. In fact, semiosis is at once a process and relation, activity and passivity, action *of* sign or action *on* sign, including sign solicitations and responses, interpreteds and interpretants.

In Peirce’s view, semiosis is a triadic process and relation whose components include sign (or representamen), object, and interpretant. “A Sign, or Representamen, is a First which stands in such a genuine triadic relation to a Second, called its Object, as to be capable of determining a Third, called its Interpretant, to assume the same triadic relation to its Object in which it stands itself to the same Object” (CP 2.274). Therefore, the sign stands for something, its object, “not in all respects, but in reference to a sort of idea” (CP 2.228). However, a sign can only do this if it determines the interpretant which is “mediately determined by that object” (CP 8.343): as stated, semiosis is action of sign and action on sign, activity, and passivity. “A sign mediates between the *interpretant* sign and its object” insofar as it refers to its object under a certain respect or idea, the ground, and determines the interpretant “in such a way as to bring the interpretant into a relation to the object, corresponding to its own relation to the object” (CP 8.332).

Ferruccio Rossi-Landi (1921-1985) proposed and developed his hypothesis of language as work from his early writings of the 1960s onwards. According to this approach the two definitions of man as *laborans* and as *loquens* coincide. Natural divisions that oblige one to assign verbal work and nonverbal work, the production of messages and the production of merchandise to separate regions do not in fact exist. In both cases we are dealing with semiosis, with the *linguistic work of modelling*. On the basis of such a claim it is possible to establish a connection between Rossi-Landi's concept of work, on the one hand, and the concepts of primary, secondary and tertiary modeling as elaborated by Sebeok, on the other.

Similarly to Sebeok, Rossi-Landi criticized those theories that reduce the problem of the origin of language to the problem of communication. As writes Rossi-Landi in *Metodica filosofica e scienza dei segni*: "We must evidence the nonreducibility of language to mere communication, otherwise it would not be possible to place the capacity of language in a coherent framework concerning the phylogenesis of nerve structures and relative psychic functions" (Rossi-Landi 1985: 234).

In Rossi-Landi's view, language understood as work is at the origin of the different historico-natural languages; these in fact are viewed as the product of language as work. Linguistic work reactivates languages and endows them with new value through the *parole*. The latter is individual only because each single elaboration is individual. However, the model of production is social (see Rossi-Landi 1968, 1992).

In our view, all this puts us into a position to relate Rossi-Landi's concept of "language as work" to Sebeok's concept of "language as primary modeling".

Commodified and alienated work is a characteristic of today's social system. Work in the expression "linguistic work" evokes something that is juxtaposed to play, and therefore may lead one to believe that linguistic work contrasts with the "play of musement", as described by Peirce. But let us remember that Sebeok too evoked the play of musement to the end of characterizing the human being as a semiotic animal, therefore to evidence specifically human primary modeling or what he calls "language".

The truth is that the concepts of "linguistic work" and "play of musement" (expression that corresponds to the title of a book by Sebeok) do not contradict each other. As Rossi-Landi explained, work and play are not juxtaposed, indeed play requires preliminary work as well as work for its performance, work no doubt that is particularly agreeable .

Another point where Rossi-Landi's position and Sebeok's come together concerns the critical stand taken by both against hypotheses that attempt to explain the origin of language on the basis of the need to communicate.

For both Rossi-Landi and Sebeok language is what makes the constitution, organization and articulation of properly human work possible. Speech and historico-natural languages presuppose language understood as the capacity for syntactic construction and deconstruction proper to human modeling which, as a result of syntax, is capable of producing an indefinite number of possible worlds.

From this point of view both Sebeok's work and Rossi-Landi's work may be associated to an approach in semiotics envisaged by myself with Susan Petrilli and which we have proposed to call "semioethics".

English translation by Susan Petrilli

References

BAKHTIN, Mikhail M.

1926. "Discourse in life and discourse in poetry", *Bakhtin School papers*, ed. by Ann Shukman, *Russian Poetics in Translation*, 10, 1983.

2008. *In dialogo. Conversazioni del 1973 con Viktor Duvakin*, trans. Rosa Stella Cassotti, ed. Augusto Ponzio (Naples: Edizioni Scientifiche Italiane).

BOUISSAC, Paul (ed.).

1998. *Encyclopedia of Semiotics* (Oxford: University Press).

BOUISSAC, Paul, Michael HERZFELD, and Roland POSNER (eds.).

1986. *Iconicity. Essays on Nature and Culture. Festschrift for Thomas A. Sebeok on his 65th birthday* (Stauffenburg: Tübingen).

DEELY, John.

1990. *Basics of Semiotics* (Bloomington, IN: Indiana University Press).

1998. "Thomas A. Sebeok", in Paul Bouissac (ed.), *Encyclopedia of Semiotics* (Oxford: University Press).

1995. *Thomas A. Sebeok. A Bibliography of his Writings 1942-2001*.

DEELY, John, and Susan PETRILLI (eds.).

1993. *Semiotics in the United States and Beyond: Problems, People, and Perspectives. Semiotica*. Special Issue 97- 3/4.

DEELY, John, Augusto PONZIO, and Susan PETRILLI.

2005. *The Semiotic Animal* (Ottawa: Legas).

GOULD, Stephen J., and Elizabeth VRBA.

1982. "Exaptation", *Paleobiology* 8, I, 14-15.

LÉVI-STRAUSS, Claude.

1986. "Avant-Propos", in Paul Bouissac, Michael Herzfeld, Roland Posner (ed.), *Iconicity. Essays on Nature and Culture. Festschrift for Thomas A. Sebeok on the his 65th birthday* (Stauffenburg: Tübingen 1986).

MORRIS, Charles.

1971. *Writings on the General Theory of Signs*, ed. T. A. Sebeok (The Hague-Paris: Mouton).

PEIRCE, Charles Sanders.

1931-66. *Collected Papers of Charles Sanders Peirce*, 8 vols, ed. C. Hartshorne, P. Weiss, & A. W. Burks (Cambridge, Mass.: Harvard University Press).

PETRILLI, Susan.

(ed. and intro.) 1992. *The Correspondence Between Morris and Rossi-Landi, Semiotica*, Special Issue 88, 1/2.

1993. "Thomas A. Sebeok and Semiotics in the United States in the Panorama of Recent Developments in Italian semiotics", in J. Deely and S. Petrilli (ed.) 1993, 337-372.

1995a. *Materia signica e interpretazione* (Lecce: Milella).

1995b. "For a Global Approach to Semiosis", *Cruzeiro Semiotico*, Sept., 27-36.

1995c. "La Iconicidad en la 'Doctrina de los signos' de Thomas A. Sebeok", *Cruzeiro Semiotica*, Sept., 303-313.

1998. *Teoria dei segni e del linguaggio* (Bari: Graphis 2001²).

1999. "Charles Morris's Biosemiotics", *Semiotica* 127-1/4, 67-102.

2003. "Sebeok's Semiotic Universe and Global Semiotics," *Cybernetics & Human Knowing. A Journal of Second-order Cybernetics, Autopoiesis and Cyber-Semiotics. Thomas Sebeok and the Biosemiotic Legacy*, 10, 1, 2003, 61-79 ed. by Soeren Brier.

2005. *Percorsi della semiotica* (Bari: Graphis).

PONZIO, Augusto.

1985. "Significs e semantica. Victoria Lady Welby e Giovanni Vailati", in Victoria Welby, *Significato, metafora, interpretazione*, It. trans. intro. and ed. S. Petrilli (Bari: Adriatica 1985).

1990. *Man as a Sign. Essays on the Philosophy of Language*, intro., trans., and ed. by S. Petrilli (Berlin: Mouton).

1993. *Signs, Dialogue, and Ideology*, ed. by S. Petrilli (Amsterdam: John Benjamins).

1994. (in collab. with S. Petrilli and P. Calefato) *Fondamenti di filosofia del linguaggio* (Bari: Laterza, 2nd ed. 1998); Enlarged Brazilian edition, *Fundamentos de Filosofia da Linguagem*, ed. and intro. A. Ponzio, trans. by Ephraim F. Alves (Petrópolis, RJ, Brazil: Editora Vozes 2007).

1999. *La comunicazione* (Bari: Graphis, new ed. 2006).

2004a. "Dialogism and Biosemiotics", *Identity and Locality in the World of Global Communication. Semiotica* 150-1/4 (2004), 39-60.

2004b. "Dialogic Gradation in the Logic of Interpretation: Deduction, Induction, Abduction", *On Abduction, Semiotica* 153-1/4 (2004).

2004c. "Modeling, Communication and Dialogism", *The American Journal of Semiotics. Semiotics and Philosophy: Synchronic and Diachronic Perspectives*, 20. 1-4 (2004), 157-178.

2007. "Thomas A. Sebeok, Hybrid Joke-teller", in Paul Copley, John Deely, Kalevi Kull, Susan Petrilli (eds.), "*Semiotics Continues to Astonish*": *The Intellectual Heritage of Thomas Albert Sebeok* (Tartu: Tartu University Press 2007, forthcoming).

PONZIO, Augusto, and Susan PETRILLI.

1998. *Signs of Research on Signs. Semiotische Berichte, Österreichischen Gesellschaft für Semiotik*. Special Issue Jg. 22, 3/4.

1999. *Fuori campo. Il segni del corpo tra rappresentazione ed eccedenza* (Milan: Mimesis).

2001. *Sebeok and the Signs of Life* (London: Icon Books).

2002a. *I segni e la vita. La semiotica globale di Thomas A. Sebeok* (Milan: Spirali).

2002b. "Sign Vehicles for Semiotic Travels. Two New Handbooks", *Semiotica* 141-1/4, 203-350.

2003. *Semioetica* (Rome: Meltemi).

2005. *Semiotics Unbounded. Interpretive Routes through the Open Network of Signs* (Toronto: Toronto University Press).

POSNER, Roland, Klaus ROBERING, and Thomas A. Sebeok, Editors.

1997-2003. *Semiotik / Semiotics. A Handbook on the Sign-Theoretic Foundations of Nature and Culture*, 3 vols. (Berlin: Walter de Gruyter).

ROSSI-LANDI, Ferruccio.

1968. *Il linguaggio come lavoro e come mercato* (Milan: Bompiani 1992); Eng. trans. M. Adams et alii, *Language as Work and Trade* (South Hadley, Mass.: Bergin and Garvey 1983).

1973. *Ideologies of Linguistic Relativity* (The Hague: Mouton).

1975. *Linguistics and Economics* (The Hague: Mouton 1977).

1978a. *Ideologia* (Milano: ISEDI; nuova ed. Milan: Mondadori 1982); Eng. trans. R. Griffin, *Marxism and Ideology* (Oxford: Clarendon 1990).

1978b. "On Some Post-Morrisian Problems", *Ars Semeiotica* 3, 3-32; It. trans. in C. Morris 1988, 201-231.

1985. *Metodica filosofica e scienza dei segni* (Milan: Bompiani).

1992. *Between Signs and Non-signs*, intro. and ed. by S. Petrilli (Amsterdam: John Benjamins).

SAUSSURE, Ferdinand de.

1916. *Cours de linguistique générale*, ed. Ch. Bally and A. Séchéhaye (Paris: Payot 1964); critical ed. R. Engler, 4 Vols. (Wiesbaden: Otto Harrassowitz 1968-1974).

SEBEOK, Thomas A. (ed.).

1968. *Animal Communication: Techniques of Studies and Results of Research* (Bloomington, IN: Indiana University Press).

1972. *Perspectives in Zoosemiotics* (The Hague: Mouton).

1976. *Contributions to the Doctrine of Signs* (Bloomington, IN: Indiana University Press; 2nd ed. Lanham: University Press of America 1979); It. trans. by M. Pesaresi, *Contributi alla dottrina dei segni* (Milan: Feltrinelli 1979).

(ed.) 1978. *Sight, Sound and Sense* (Bloomington, IN.: Indiana University Press).

(ed.) 1979. *How Animals Communicate* (Bloomington, IN: Indiana University Press).

1979. *The Sign & Its Masters* (Texas: The University of Texas Press; 2nd ed. Lanham,

Maryland: University Press of America 1989); It. trans. and intro. by S. Petrilli, *Il segno e i suoi maestri* (Bari: Adriatica 1985).

1981. *The Play of Musement* (Bloomington, IN: Indiana University Press); It. trans. by M. Pesaresi, *Il gioco del fantasticare* (Milan: Spirali 1984).

1986. *I Think I Am a Verb* (New York: Plenum Press); It. trans. and intro. by S. Petrilli, *Penso di essere un verbo* (Palermo: Sellerio 1990).

1990. *Essays in Zoosemiotics*, ed. by M. Danesi (Toronto: University of Toronto Press).

1991a. *American Signatures. Semiotic Inquiry and Method*, ed. by I. Smith (Norman-London: Oklahoma Press).

1991b. *A Sign Is Just a Sign* (Bloomington, IN: Indiana University Press); It. trans. and intro. by S. Petrilli, *A sign is just a sign. La semiotica globale* (Milan: Spirali 1998).

1991c. *Semiotics in the United States* (Bloomington, IN: Indiana University Press); It. Trans. intro. and ed. by S. Petrilli, *Sguardo sulla semiotica americana* (Milan: Bompiani 1992).

1994a. "Global Semiotics", in I. Rauch and G. F. Carr, *Semiotics Around the World: Synthesis in Diversity*, 105-130 (Berlin: Mouton de Gruyter), now in T. A. Sebeok 2001.

1994b. *Signs. An Introduction to Semiotics* (Toronto: Toronto University Press 2001).

1997. "La semiotica globale", It. tran. by S. Petrilli, *Symbolon* 1, 1-2, 11-56.

1998. *Come comunicano gli animali che non parlano*, It. trans., intro. and ed. by S. Petrilli (Bari: Edizioni dal Sud).

1999-2000. "Trasmutazioni intersemiotiche: un genere di barzellette ibride", designed by Luciano Ponzio, *La traduzione. Athanor. Semiotica, filosofia, arte, letteratura*, X, 2.

2001a. *Global Semiotics* (Bloomington, IN: Indiana University Press).

2001b. "Nonverbal communication", in P. Copley (ed.), *The Routledge Companion to Semiotics and Linguistics* (London: Routledge), 14-27.

2001c. *The Swiss Pioneer in Nonverbal Communication Studies. Heini Hediger* (Ottawa: Legas).

2001d. "Intersemiotic Transmutations: A Genre of Hybrid Jokes", in T. A. Sebeok 2001a, 115-120.

SEBEOK, Thomas A., and Marcel DANESI.

2000. *The Forms of Meaning. Modeling Systems Theory and Semiotic Analysis* (Berlin: Mouton de Gruyter).

SEBEOK, Thomas A., and Susan PETRILLI.

1998. "Women in Semiotics", in G. F. Carr *et alii* (ed.), *Interdigitations: Essays for Irmengard Rauch* (Bristol: Thoemmes Publisher).

SEBEOK, Thomas A., Susan PETRILLI, and Augusto PONZIO.

2001. *Semiotica dell'io* (Rome: Meltemi).

SEBEOK, Thomas A., and Jean UMIKER-SEBEOK.

1987. *Monastic Sign Languages* (Berlin: Mouton de Gruyter).

UEXKÜLL, Jakob von.

1909. *Umwelt und Innenwelt der Tiere* (Berlin: Springer Verlag).

1992. Jakob von Uexküll's "A Stroll through the Worlds of Animals and Men", ed. Thure von Uexküll. *Semiotica*, Special Issue 89, 4.