

Lesson 3

Communication at the Intersection between Nature and Culture. A Decisive Contribution from Global Semiotics

Susan Petrilli
University of Bari Aldo Moro, Italy
susan.petrilli@gmail.com

1. Communication and speech; 2. Communication among others; 3. Homologies and analogies in zoosemiosis; 4. Totality and otherness; 5. Otherness and nomination; 6. Semiosis with language and semiosis without language

1. Communication and speech

The expression “how animals that don’t speak communicate” – which figures as the title of a collection of essays on animal communication, in Italian translation, *Come comunicano gli animali che non parlano*, 1998, by Thomas Albert Sebeok (born Sebök, 1920–2001) – does not just signal a curiosity or simply allude to a question of the zoological or ethological order. Far more broadly, it concerns general semiotics and the place of human communication and specifically of verbal language in the sign universe and studies thereof.

Let us observe immediately that this question is a plausible one. By common sense consensus, it is generally agreed that animals communicate. Yet many sign experts, particularly the “semiologists,” tend to circumscribe their interest in communication to the human world and some still consider the expression “communicating animal” as a qualification specific to human beings. In reality, however, we know that all animals communicate: not only the human, but also the nonhuman. Indeed, to qualify human beings as “communicating” is simply to evidence the fact that they belong to the animal kingdom. Even more, studies in the sphere of biology now reveal that members forming the other two superkingdoms, plants and fungi, qualify as communicating as well. In addition to this, communication is also present in microorganisms. Communication involves cells endowed with an unencapsulated nucleus, that is, prokaryotes and bacteria. And it also involves the

more developed cells endowed with an encapsulated nucleus, that is, eukaryotes. These go to form the three superkingdoms (also a fourth, the protists, inclusive of that which is neither plant, nor animal, nor fungi given that nourishment occurs neither through *photosynthesis* with plant-composers, nor through *ingestion* with animal-transformers, nor through *decomposition* with fungi-decomposers, but through a combination of all three processes as in the case of algae).

Such expressions as “intercellular communication” (which nobody would misunderstand as referring to two people communicating thanks to their mobiles) and “genetic code,” etc., now circulate in ordinary language. Consequently, to say that the human being is a communicating animal is like saying that the human being is a living being. In fact, while it is not certain that where there is no life, there is no communication, there is no doubt that where there is life, there is communication (and modelling). Indeed, the claim is that life and communication (understood in a broad sense) converge. Therefore, by comparison with the presumed “definition” of the human being as a “communicating animal,” the definition of the human being as a “mammal” is by far much more characterizing, though it too says nothing about the specificity of the genus *Homo*.

But not even characterization as a “speaking animal” qualifies the human being. That speech is not a necessary requisite to qualify humans as human is testified by the existence of deaf-mutes—to all intents and purposes, people capable of high levels of cultural expression and yet speechless.

What specifies humans as human is not speech but language, where the latter, “language,” is understood as a modelling device – language for modelling, not language for communication (see Petrilli 2012: 5.8). Moreover, we know that – vital – communication among infants (as the expression already tells us) occurs completely outside the verbal. As Sebeok evidences, infants (“in” is the privative prefix that precedes the present participle of “*fari*” “to speak”) communicate nonverbally as do people suffering, for example, from aphasia and as a consequence are considered as disabled (Sebeok 1986a: 13).

As revealed by these initial considerations, it is not easy to respond to the question of how animals communicate, even though they do not speak, without dealing with human communication. “Animals that don’t speak,” that is, “speechless animals” is an expression that can only be conceived from an *anthropocentric* point of view. This point of view is also logocentric given that the implication is that speech is a necessary condition for human beings

to obtain, a fallacy, of course, which does wrong, for example, to deaf-mutes. But the question of deaf-mutes aside, as Sebeok never tired of repeating in his oral presentations as much as throughout his writings, the main part of communication in the human world takes place through nonverbal signs, whilst only a minimal part occurs through speech, that is, verbal signs. Humans acquire verbal language on the basis of vital nonverbal communication between infant and mother or “motherers,” that is, all those, whatever the sex, involved in caring for the child (Vaughan 2015). And for the infant, nonverbal communication is no less than decisive not only for survival, but for the whole course of one’s subsequent development as an adult.

In an interview I held with Sebeok in the mid 1980s, to a question I asked him à propos the role of zoosemiotics for the human sciences, he answered from a global semiotic perspective evidencing the importance of the relation between nonhuman and species-specific human signs in the animal world, therefore between nonverbal signs and verbal signs in communicative processes involving both nature and culture. Sebeok drew attention to the overwhelming preponderance of the nonverbal in mere terms of quantity (up to approximately 99% of semiotic activity overall), where the overlap of nonverbal signs with the verbal remained exclusive to human beings. In Sebeok’s own words:

Obviously there are two aspects to semiotics insofar as it studies the verbal (the linguistic) and the nonverbal. However, what most semioticians untrained in biology don’t seem to understand is that semiotics of the nonverbal is an enormous field. It not only involves the nonverbal behaviour of humans, which actually corresponds to about 99% of what they do, but also a vast world of millions of nonhuman animals. Moreover, nonverbal semiosis also includes plant semiosis and still other types of semiosis like the semioses that occur inside the body: for example, the genetic code, the immunological code, and other types of internal mechanisms. In terms of pure quantity, nonverbal semiosis completely submerges verbal semiosis. Of course, verbal semiosis is of crucial importance in this small corner of the globe occupied by human beings, in which human beings operate. Therefore, I believe that a proper semiotician must study both verbal and nonverbal semiosis. It’s simply not possible to restrict our semiotic interests to human beings without ignoring about 99% of the world. I’d say that nature consists of about 99% of things that are different from human beings. (in Petrilli 2015a: 228)

In the terms formulated, “how animals that don’t speak communicate,” in other words “how speechless animals communicate” poses a question that is badly put if the focus is on communication among nonhuman animals, as is effectively the case here. What distinguishes nonhuman animals from humans is not the absence of speech: is it really true that “my dog only lacks speech”? (and reference is always to one’s own special dog, “my” dog). That speech alone is lacking is true of the deaf-mute, or of the infant. But we easily run into such

expressions, just as we apply the question of how speechless animals communicate to nonhuman animal communication. Even Sebeok inadvertently uses such expressions as “speechless creatures,” while he insists that what distinguishes other animals from human beings is the fact that they do not have “language”.

However, the point is that in this context of discourse “language” is understood by Sebeok as a *primary modelling device* distinct from speech, that is, from historical-natural languages that, instead, are *secondary modelling devices*. This is so only as a consequence of the processes of *exaptation*, considering that speech originally developed as a result of *adaptation with uniquely communicative functions* (Danesi and Sebeok 2000; Petrilli and Ponzio 2002a: I.5, II.4; Sebeok 1991: Ch. 5; 1994/2001: Ch. 9). But more on this later. First, I wish to evidence the difficulties involved in getting free of anthropocentric, logocentric, and phonocentric perspectives in spite of good intentions and however broad or unprejudiced our ideas.

2. Communication among others

When dealing with communication among others different from ourselves, we easily make the error of investing such communication with the shortcomings, similarities, or potential typical of human communication, referred to as the criterion of evaluation. The logic driving what may be considered an error of the anthropocentric order is similar to that of another error, in this case of the ethnocentric and glottocentric order, when the characteristics of a given language, one’s own, are prejudicially assumed as the characteristics of thought and language in general. This type of confusion can be traced in English analytical philosophy when it claims to describe the general characteristics of ordinary language, in truth the specific characteristics of the English language. Noam Chomsky (1959/1967) makes a similar mistake when he claims to refer to innate universal grammar – a position he has also maintained in more recent times in cooperation with Marc D. Hauser and W. Tecumseh Fitch (2002) –, in reality identifying rules relative to English. In fact, his linguistic examples are not workable when translated into other languages (see Ponzio 1992).

The problem of understanding communication among others does not only concern linguistics, ethnolinguistics, or cultural anthropology dominated by prejudices of the linguistic-ethnocentric order; it also concerns nonhuman animal communication. In spite of great diversity, even the characteristics of nonhuman animal communication tend to be

established on the basis of anthropocentric prejudice. Therefore, we pass from the tendency to limit communication to anthroposemiosis, indeed, even more restrictively to anthroposociosemiosis, that is, human social communication, implicitly denying, or at least ignoring that nonhuman animals communicate (in this case, semiotics would be a uniquely human science) – to the opposite excess. In other words, to certain nonhuman animals (chimpanzees, horses – the Clever Hans phenomenon – dogs, seals, dolphins, etc., cf. Sebeok and Rosenthal, eds. and conference chairmen, 1981) are attributed specifically human cognitive capacities such as counting, or even verbal behaviour, simply on the basis of scientific-ideological trends that come and go.

The study of animal communication should be oriented by thematization of the problem of otherness; communication is connected with a disposition towards the other. To relate to the other from self means to avoid projecting self onto the other or identifying with the other, as much as the opposite tendency to separate from the other and create barriers. Such an attitude often implies the arrogance of identity, of overevaluating self, the observing subject, and dominating over the other, in this sense violating the other (cf. Petrilli 2014b, 2016).

3. Homologies and analogies in zoosemiosis

The study of animal communication is now part of that discipline known as *zoosemiotics*. With *phytosemiotics* (which studies communication in the plant world), *mycosemiotics* (the potential study of communication among fungi), *microsemiotics* (which studies bacteria or prokaryotes), and *endosemiotics* (communication in large organisms), zoosemiotics enters the larger domain of *biosemiotics*. Biosemiotics deals with the *semiosphere* understood in a different sense from Yuri M. Lotman (1922–1993) who referred this expression to the human cultural sphere (cf. Lotman mainly 1984, and also 1981a, b) discussed by Kalevi Kull (1999a, 1999b). But with recent developments in biosemiotics, it is now clear that the semiosphere converges with the entire *biosphere* given that life implies semiosis (that life does not subsist without semiosis is certain and our direct concern here, but that semiosis subsists without life is yet to be demonstrated and in any case is not relevant to our present focus).

There are two ways of considering differences and identifying relations with the other: one by *contrast*, the other by *similarity*. As evidenced by Mikhail Mikhailovich Bakhtin (1895–1975), the first does not help towards identifying specificities. Bakhtin was critical of

the approach proposed by the Russian Formalists, the “specifiers,” intent upon explaining the specificity of literary language by contrasting it to ordinary communication. Instead, he worked with the category of similarity. In a splendid essay of 1926, “Slovo v žizni i slovo v poezii. K voprosam sociologiceskoj poetiki” (translated into English as “Discourse in Life and Discourse in Art”), signed by his friend and close collaborator Valentin N. Voloshinov (1895–1936), translated in 1976 under a slightly different title: “Discourse in life and discourse in art (concerning sociological poetics), and edited as an Appendix to the book *Frejdzizm. Kritičeskij očerk*, of 1927 (translated in 1973 as *Freudianism in Marxist critique*, and repropounded in a new edition of 1987 under the holistic title *Freudianism: A Critical Sketch*, cf. Voloshinov 1927, as well as 1926), the specificity of the literary word is evidenced on the basis of similarity to the word of ordinary life. Of course, the type of similarity alluded to is not surface similarity, so-called analogy, but rather deep-level similarity, genetic and structural similarity, that is, “homology”. Bakhtin knew the difference on the basis of his experience with the life sciences. In fact, disguised as a biologist under the influence of his friend and collaborator Ivan Ivanovitch Kanaev (1893–1984), he also studied problems connected with evolutionary development and was critical of *vitalism*, which at the time was enjoying consensus (cf. Kanaev 1926). Not even the biologist and cryptosemiotician highly considered by Sebeok, Jakob Johann von Uexküll (1864–1944) was immune (cf. Uexküll 1982 [1940] and Sebeok 1979: 187–207).

Victoria Lady Welby (1837–1912) also thematized the distinction between analogy and homology as a result of her extensive studies and special interest in biology: the difference is between similarity that is not scientifically significant (analogy), that is, similarity among things that in ordinary language may even be called with the same name (the wing of an insect and the wing of a bird), and similarity which is scientifically significant (homology), for example, the wing of a bird, the upper limb of a human, and the pectoral fin of a fish (cf. Petrilli 1998a). Approaches that oppose separatism among the sciences, in particular the human and the natural sciences, can do so on the basis of homological similarity, as illustrated by Sebeok (2000, see note 21). Ferruccio Rossi-Landi, a major critic of separatism, also underlines the importance of homological similarity for the identification of differences and specificities, and even describes his own general approach to the study of signs, his “methodics,” as a “homological method” (see Petrilli 2010: Ch. 2, 3, 5; Petrilli 2014b: Ch. 14; Rossi-Landi 1968, 1975, 1985, 1992).

The specificity of human and nonhuman animals, the degree of otherness distinguishing

them emerges even more clearly in the light of the genetic-structural similarity, that is, homological similarity that relates them on both a diachronic and a synchronic level. For example, it has been scientifically demonstrated that nonhuman animals (whether separately for each species or viewed overall) use the same types of signs as humans. Referring to the triadic distinction among signs as conceived by Charles Sanders Peirce (1839–1914), that which distinguishes between *symbols* (based on convention), *indices* (based on contiguity or causal succession), and *icons* (based on similarity), all three types of sign (symbol, index, icon) are present in the animal world, human and nonhuman (cf. Peirce 1931–1958). In addition to this, nonhuman animals also use names and are capable of lying, as Sebeok has amply demonstrated in his many essays on naming and deception (cf. Sebeok 1986a: Ch. 7 and 10).

All the same, as Charles Morris also demonstrates in his *Foundations of the Theory of Signs* (1938) published as an issue of the *Encyclopedia of the Unified Sciences of Chicago*, continuity between the nonhuman animal world and the human animal world does not exclude discontinuities and specificities. We now know that anthroposemiosis is part of zoosemiosis, therefore that anthroposemiotics is a branch of the vaster sphere of zoosemiotics. To keep account of the relation of continuity, of similarity (homology), of the situation of evolutionary interconnectedness between these two spheres is a condition for the identification of otherness relations, of specificities, without reductionisms or separatisms. To reduce one sphere to another, or the opposite tendency to create barriers between them obstructs the possibility of understanding otherness, whether one's own or of others in the face of identities indifferent to differences, again whether one's own or of others.

4. Totality and otherness

As regards reductionism, some approaches aim to explain nonhuman animal behaviour in the light of human behaviour. But the opposite approach tends to dominate as in the case of a certain behaviourism where the tendency is to explain human behaviour referring to nonhuman behaviour as the model. Even worse, reference is often to animals studied in the laboratory and distant in evolutionary terms (rats and dogs as in Pavlov's case).¹ Charles W.

¹ The theory of classical conditionings, first described in 1903 with reference to dogs by Ivan Pavlov (1849–1936), a Russian physiologist (who received a Nobel prize in 1904 for his work on the physiology of digestion), was then further extended in 1921 to the study of an infant by John B.

Morris himself is one of the main exponents of behaviourism with George Herbert Mead (1863–1931) and simultaneously a major critic of behaviourism understood in reductionist terms (Morris’s approach was not distant from Peirce’s pragmatism). The reductionist approach to behaviourism claims to explain human semiosis in the light of nonhuman animal behaviour, homologating verbal and nonverbal behaviour.

Instead, an approach from the perspective of the logic of otherness helps avoid new misunderstandings of the biologicistic type as inevitably entailed by reductionist fallacies. That the *semiosphere* and *biosphere* converge, that *global semiotics*, which studies semiosis of life (see Posner et al. 1997–2004; Sebeok 2001) and biosemiotics converge can be demonstrated without implying any form of biologism. In fact, Morris (1938) first and Sebeok inter alia (1972, 1976, 1979, 1981, 1986, 1991, 1994, 1998, 2000, and 2001) after him both proceeded in this direction, but neither of the two fell into the trap of behavioural or biologicistic reductionisms. And yet Morris was particularly exposed (though immune), insofar as he worked at a time when “unification” of the sciences was a dominant concern characterized by the tendency was to reconstitute the language of all sciences to the language of physics.

Here, too, the question of otherness emerges if the aim is to encourage dialogue among the sciences – human sciences, physical-natural sciences, logico-mathematical sciences – without any one of them overpowering any other. Interaction is most profound and efficient if fostered from a semiotic perspective, given that all sciences indifferently are involved with signs and their interpretations. Rather than a super science or a philosophy with claims to omniscience, semiotics is a place of encounter where different sciences can confront each other on the basis of their own specific interests and orientation: this is the condition for *real dialogue*, for *substantial dialogue*. Each science participates with its specificity, its otherness with respect to the otherness of other sciences. All sciences are involved in semiosis and semiosis presents a grand variety of aspects, all of which call for identification in their materiality and objectivity. This is the condition for an approach to semiotics that is truly global, capable therefore of understanding semiosis in its different specifications.

The question of otherness is connected with the question of the totality. The otherness relation can only obtain on one condition: that no single part claims to be the totality. According to the Saussurean definition, semiology is the science of signs that studies signs in

Watson (1878–1958), considered henceforth as the founder of the psychological school of behaviourism.

the sphere of (human) social life, limiting its attention to conventional signs, therefore to signs produced intentionally for communication purposes. When semiology claimed to be the general science of signs, it exchanged anthroposemiotics, that is, a part of zoosemiotics, for global semiotics; the part for the whole, thereby committing the *pars pro toto* fallacy. Moreover, the linguistic origin of semiology entailed that all other signs were studied and understood in the light of the verbal sign model, referring to linguistics as the model science. This means to say that “semiology” is based on the verbal paradigm and is vitiated by the *pars pro toto* fallacy where human signs and in particular verbal signs are exchanged for all possible signs, human and nonhuman (Petrilli and Ponzio 2001, 2002a, 2002b).

But to establish an otherness relationship among research areas and their specific objects of analysis requires a *detotalizing method* rather than a totalizing approach, as is the Saussurean (Petrilli 2010). This means to redimension the imperialistic attitude of certain disciplines towards others and to reestablish the part with respect to the *whole which is far more extended*—another concept which also needs reconsideration.

Global semiotics frames each discipline in the study of semiosis in such a way as to avoid that any one of them should become absolute or misinterpret its own point of view as the only one possible. A *detotalizing method* in the study of signs and an *approach to semiotics that is truly global* presuppose each other. Instead of favoring a totalizing gaze, global semiotics facilitates the process of *detotalization*. To identify semiosis with life is the condition for semiotics to avoid limiting itself to “parochial” views, as Sebeok would say, to the advantage of an approach that is as “ecumenical” as possible.

However, as anticipated, that life converges with semiosis does not mean that semiosis is exhausted in life. Sebeok declared this explicitly thereby making his global semiotics available to the processes of detotalization, as already prefigured by Peirce when he stated that the whole universe is perfused with signs, indeed consists of signs. Global semiotics is continuously exposed and open to its own detotalization to the point even of involving a *cosmosemiosis dimension*. If we fail to cultivate such a broad gaze (which can be described as “Lucretian” remembering the yet unsurpassed vision proposed in *De rerum natura* (cf. Lucretius 1916/2008 [c. 94–c. 49 BC])², the risk of (varying degrees) of shortsightedness does

² *De rerum natura* written by Roman poet and philosopher Titus Lucretius Carus (c. 99–c. 55 BC), around 94 and 49 BC, was rewritten by consequent scribes in numerous copies of manuscripts and reedited in many amended versions between 1473 (in Brescia, Lombardy) and 1850, until the time

not only involve the destiny of a discipline (semiotics), but also of life and its signs. Conceived as global semiotics, semiotics eliminates boundaries and brings down barriers constructed by the parts when they claim to be the absolute totality. On the contrary, global semiotics reveals the relation of inevitable involvement, of inextricable mutual implication among parts, tracing the presence of communication that is not necessarily intentional, that is not decided by a subject, but rather is suffered, imposed and at once vital.

5. Otherness and nomination

The problem of classifying an animal like the platypus (cf. Eco 1997 [1999]) is rather insignificant by comparison to the problem of establishing criteria to define what “animal” means (Sebeok 1991: Ch. 10). In all taxonomies distinctions are approximate, including that which distinguishes between the three great superkingdoms. The implication is that it is rather difficult to establish a net and precise distinction between that which may be understood by “animal” and all other living beings. Consequently, a fourth superkingdom has been postulated in which to place all that is neither “animal,” nor “plant,” “nor fungus,” but “other”. This fourth superkingdom presents an immediate difficulty for denomination.

Naming, denominating is always a complex issue when a question of the other. With respect to the “same,” the “identical,” the other is the “notsame,” the “non-identical,” or the “extra-same,” “the extra-identical”. For example, given the primacy attributed to verbal signs on the basis of phonocentric prejudice, all signs that are other with respect to the verbal paradigm are classified superficially as “nonverbal” or “extra-verbal signs”. This also applies to animals which are other with respect to the human, indicated as “nonhuman animals”. In this case too, one part dominates over the other. Clearly all such denominations are similar to the rather “unhappy” names for the other in the human world: “extracommunitarian,” “alien,” “foreigner,” “ethnic,” “Amerindian,” “red skin,” “illegal,” “queue jumper,” etc. Such expressions circulate widely in ordinary language to the extent that they seem normal, and yet that whales should be called “fish” is considered a scandal! As observed by Sebeok, popular

when the most reliable critical edition was elaborated and discussed by Karl (Konrad Friedrich Wilhelm) Lachmann. Cf. Karl Lachman (ed.) 1850. *Lucretii de rerum natura libri VI*, Berolini: Impensis Georgirii Reimeri;. The most popular English edition is the translation by William Ellery Leonard (1876–1944), a classical philologist and poet from the University of Wisconsin–Madison. Historical accounts may be found in the editors notes in *De Rerum Natura: The Latin Text of Lucretius*, edited by William Ellery Leonard and Stanley Barney Smith (Latin and English Edition. Paperback – August 8, 2008. 1st edition). Madison, WI: University of Wisconsin Press.

taxonomies sometimes compensate for the rigidity and excessive abstractness of scientific taxonomies. And in the case of whales this “popular” denomination for the cetacean is no less responsive to “reality” than is the expression “mammal”.

6. Semiosis with language and semiosis without language

It is important to work on the *categories of general semiotics from the perspective of global semiotics*—sign, meaning, semiosis, communication, interpretation, etc. It is also important to avoid exchanging any of the special characteristics of these categories relative to specific and often privileged fields of semiosis, for general categories. Considering the dominant orientation in semiotics today, it is not redundant to repeat that a truly *general semiotics* is only possible from the perspective of a *global approach to semiotics*.

To the semiotician accustomed to studying texts, social interactions, the cultural semiosphere in its different aspects, historical-natural languages, special languages, even such phenomena as marketing (a sign of the times!), to have to deal with bacteria can seem inappropriate. However, as Sebeok teaches us, if semiotics understood as the general science of signs is not ready to consider such basic life-forms as bacteria when defining general categories (communication, sign, interpretation and semiosis, etc.), inevitably it will end up exchanging the part for the totality.

Interpretation by a prokaryote, or a eukaryote, or by the immune system, or by the organism in gestation on the basis of a genetic code is no less important for human life (on both the phylogenetic and ontogenetic levels) than is interhuman verbal and nonverbal communication. Interpretive processes of this type are literally vital for communication in the human world. Consider that “intercellular” communication (that is, communication via cellular, mobiles) in technologically advanced human societies can only take place on the condition that intercellular communication (that is, communication among cells), endosemiosis, functions regularly in the organisms of the two people connected to the phone.

Even the expression chosen as the title of the 1998 Italian anthology of Sebeok’s writings, *Come comunicano gli animali che non parlano* (How animals that don’t speak communicate) is one of those “unhappy” expressions mentioned in the section above. Speech occupies a minimal place in the human world, let alone the animal world at large. It follows that the fact of applying the expression “how animals that don’t speak communicate” or “how

speechless animals communicate” to an enormous number of members in the animal kingdom is the result of privileging speech (unjustifiably) on the basis of a phonocentric prejudice. This bias is so deep-seated that the expression was accepted as the title of a book dedicated to nonhuman animal communication and actually sounds better than the more correct expression “how nonhuman animals communicate” or the equally correct “how animals without language communicate”. The volume in question is a collection of essays by Sebeok on zoosemiotics, selected and translated by myself and presented under a title that I proposed and Sebeok accepted.

The *capacity for language* understood as *modelling* and characterized by *syntax* (or, better, *syntactics*) endows human beings with the capacity to construct not only one world, like all other animal species, but numerous possible worlds. This species-specific modelling capacity appeared with hominids and determined their evolution during the whole course of development from *Homo habilis* to *Homo erectus* to *Homo sapiens* and now *Homo sapiens sapiens*. Syntax or writing (*ante litteram* writing, that is, writing before the letter, *avant la lettre*, to use an expression introduced by Emmanuel Levinas [1906–1995], writing before verbal transcription) involves the capacity to (mutely) construct multiple meanings and senses, multiple registers, that is, multiple meanings relative to different registers, with a finite number of elements (cf. Levinas 1972). Oral verbal language can be discussed in terms of “writing” (Petrilli and Ponzio 2003a: 7-10, 11-26, see also Petrilli 2012: 122). Parallel to activation of the modelling capacity (language) in the evolutionary development of *Homo*, nonverbal signs were also used for communication as in all other animals, but with the difference that in humans they were rooted in (mute) language (modelling). In this sense these nonverbal signs are *linguistic* nonverbal signs (Posner *et al.*, 1997–2004, Art. 18, §5, §6).

When speech appeared in the hominization process, growing in complexity, expressive precision, and interpretive effectiveness, it did so as an instrument of communication alongside the different modalities of nonverbal communication. However, speech presupposes the capacity for language (understood as modelling). This means that with speech it is possible to produce an “infinite number of sentences” (to recall Chomsky 1965: 8), or, more exactly, “utterances,” with a finite number of meaningful elements, or monemes (also called morphemes), and a finite number of distinctive entities, or phonemes, as foreseen by André Martinet (1957/1965) and his theory of double articulation. Speech is linguistic in the sense that it is rooted in language understood as a syntactic modelling capacity. Language is a primary modelling procedure, speech is a secondary modelling procedure, while writing

understood as transcription, as mnemotechnics, involves tertiary modelling (cf. Sebeok 1991: Ch. 5).

Only in the case of verbal and nonverbal human communication is it scientifically correct to speak of “language” and “languages,” or to use the adjective “linguistic” (cf. Petrilli 2014; Ponzio 2015). Semiosis throughout the biosphere is endowed with a capacity for communication, but not with language understood as modelling, nor consequently with languages that are connected with this type of modelling which is specific to human beings. Language and languages belong uniquely to anthroposemiosis. But this does not exclude continuities and homologies: for example, homological relations can be traced between the syntactics of language and the genetic code. Nonhuman zoosemiosis is populated by sign systems, not languages; nonetheless, the same types of sign occur in both sign systems and languages, as demonstrated by Sebeok in his book on the doctrine of signs (see Petrilli 2012: 4.5–4.7). This is why the correct title for Sebeok’s Italian collection of essays is not “how speechless animals communicate,” but rather “how animals without language communicate”.

All the same, the tendency to privilege the verbal and to characterize the human being mistakenly as a speaking animal is so widespread that even if the expression “language” had been used in the title of Sebeok’s collection of essays, it would have easily been read as “verbal language,” therefore once again as “how speechless animals communicate,” neglecting the fact that humans are animals that communicate without speech as well. But at that point, rather than make a straight out statement through a title, however adequate, it made more sense to use the more attractive version and then proceed to explain the issues involved.

In the next lesson we will consider the essential characteristics of communication in anthroposociosemiosis, verbal and nonverbal, the conditions of communication, hence what makes communication possible. Reflection on communication inevitably calls for a focus on the production of meaning and understanding, on the problem of interpretation. If the primary vocation of communication is the other, communication is first of all dialogical listening and responsiveness from the other to the other and for the other, that is to say, communication beyond communication among “identicals”, beyond communication between the same and the same, which means to say beyond the conventions of official communication and the order of discourse.