

Edward (1884–1939); Structuralism; United States of America: Language Situation.

Bibliography

- Bloomfield L (1943). 'Franz Boas.' *Language* 19, 198.
 Boas F (1889). 'On alternating sounds.' *American Anthropologist* 2, 47–53.
 Boas F (ed.) (1911). *Handbook of American Indian languages. Bulletin* 40. Washington, DC: Bureau of American Ethnology.

- Boas F (1940). *Race, language, and culture*. New York: Macmillan (reprinted 1966, New York: Free Press).
 Boas F (1860–1942). *Papers*. Philadelphia: American Philosophical Society.
 Cole D (1999). *Franz Boas: The early years, 1858–1906*. Seattle and London: University of Washington Press.
 Mackert M (1993). 'The roots of Franz Boas' view of linguistic categories as a window to the human mind.' *Historiographia Linguistica* 20, 331–351.
 Stocking G W (1974). *The shaping of American anthropology, 1883–1911: A Franz Boas reader*. New York: Basic Books.

Body Language

A Ponzio, Università di Bari, Bari, Italy

© 2006 Elsevier Ltd. All rights reserved.

Body Language as Human Semiosis

Body language belongs to the sphere of anthroposemiosis, the object of anthroposemiotics (see *Anthroposemiotics*). In fact, the term 'language' in today's semiotics is specific to human semiosis (i.e., human sign behavior).

Following Charles Morris's and Thomas Sebeok's terminological specifications, semiotics describes sign behavior with general reference to the organism (i.e., it identifies semiosis and life), and distinguishes between 'signs in human animals' and 'signs in nonhuman animals,' reserving the term language as a special term for the former. In other words, language is specific to man as a semiotic animal – that is, as a living being not only able to use signs (capable of semiosis) but also able to reflect on signs through signs (capable of semiotics). In this acceptation, language is not verbal language alone: Language refers to both verbal and nonverbal human signs. In this view – that is, from a semiotic and not a linguistic perspective (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 necessarily limited to the verbal in a strict sense. Following Morris (1946/1971a: 112–114), there are five criteria for the definition of language:

1. Language is composed of a plurality of signs.
2. In a language each sign has a signification common to a number of interpretants: this is linguistic signification, common to members of the interpreter-family, whereas there may, of course, be

differences of signification for individual interpreters, but such differences are not then regarded as linguistic.

3. The signs constituting a language must be 'com-signs' – that is, producible by the members of the interpreter-family. Comsigns are either activities of the organisms (e.g., gestures) or the products of such activities (e.g., sounds, traces left on a material medium, or constructed objects).
4. The signs that constitute a language are plurisituational signs – that is, signs with a relative constancy of signification in every situation in which a sign of the sign-family in question appears.
5. The signs in a language must constitute a system of interconnected signs combinable in some ways and not in others in order to form a variety of complex sign-processes.

If language is considered as synonymous with 'communication,' animals no doubt also possess language. If, on the contrary, language is distinguished from communication and determined by the five criteria mentioned previously, then animals certainly do not have language, although they do communicate. Even if some of the conditions that enable us to speak of language would seem to occur in animals, they do not occur together.

On this subject, the following statement by Morris (1946/1971a: 130) seems important:

But even if these conditions were met [i.e., if all the other requirements were met in nonhuman animal communication], the fifth requirement is a harder hurdle. 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.

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.

Body language includes different sign systems. Common to these sign systems is their foundation in language intended as a specific human modeling device (Sebeok, 1991, 2001b).

All animal species have models to construct their world, and language is the model belonging to human beings. However, the distinctive feature of language with respect to other zoosemiotic systems (although this feature is present in endosemiotic systems, such as the genetic code, the immune code, the metabolic code, and the neural code) is syntax, through which the same construction pieces may be assembled in an infinite number of ways. Consequently, the human primary modeling system can produce an indefinite number of models and worlds.

All species communicate in a world peculiar to that species alone ensuing from the type of modeling characteristic of that species. In the early stages of its development, the hominid was endowed with a modeling device able to produce an infinite number of worlds. This explains the evolution of hominids into *Homo sapiens sapiens*. The reason why it is possible for such animals to produce a limitless number of worlds is that the human modeling device, or language, functions in terms of syntax – that is, in terms of construction, deconstruction, and reconstruction with a finite number of elements that may be composed and recomposed in an infinitely great variety of different forms. We are referring to the human ability to reflect on sign materials, means, and models (i.e., on that which has already been modeled), to the end of using such materials in new modeling processes. This is what is intended by specific human semiosis – that is, 'semiotics.' Body languages are semiotical.

Body Language and the Sign–Body General Connection

The previous discussion demonstrated the connection with body language and human semiosis. However, body language belongs to the general connection between signs and bodies that is found in all the universe of life (i.e., in all planetary semiosis). This implies continuity from nonhuman animal signs to human

signs. As Morris (1946/1971b: 13) concludes his discussion of the distinction between nonhuman animal signs and human signs, human language (and the postlanguage symbols it makes possible) goes far beyond the sign-behavior of animals. On this subject, the following observation is similar to Sebeok's conception of human signs:

But language-behavior is still sign-behavior, and language signs rest upon, and *never completely take the place of* [italics added], the simpler signs which they presuppose. The continuity is as real as the discontinuity, and the similarity of human and animal sign-behavior as genuine as the difference.

All sign processes include the body in some sense because the entire sign process takes place in a biological, social, or technical medium; it must have a channel of access to the object interpreted. Channels and media are different and consequently have different ways to connect sign and body. The source may be (1) an inorganic body, such as a natural inorganic object or manufactured inorganic object, and in this case, the interpreted may be a sign only because it receives an interpretation from the interpreter ('semiosis of information'), or (2) an organic substance or a living being (organism or components) belonging to *H. sapiens* or speechless creatures ('semiosis of symptommatization,' in which the sign is unintentional, and 'semiosis of communication,' in which the sign is intentional). In body signs of symptommatization semiosis (symptoms, clues, and traces) the interpreted sign is already an interpretant response before being interpreted as a sign by an interpretant. However, this response is not oriented to being interpreted as a sign; that is, it does not come to life for the purpose of being interpreted. On the contrary, in semiosis of communication where too the interpreted is already an interpretant response before being interpreted as a sign by the interpretant, this interpretant response is intended to be interpreted as a sign.

When an organism or a machine takes an object as a sign of another object, it must have a 'channel,' a passageway to access it. Possible channels are gases, liquids, and solids with regard to matter; they are chemical and physical with regard to energy. Concerning the latter, channels may be acoustic (air, water, and solids) or optical (reflected daylight or bioluminescence; Sebeok, 1991: 27–28), tactile, chemical, electric, magnetic, or thermal. Semiosis may engage several channels and also a simultaneous use of more than one channel, as is frequently the case in human communication.

'Medium' can be used as a synonym of channel (Sebeok, 1991: 27), but medium is also the world in

which semiosis takes place. It may be a biological, social, or technical medium. In this double sense that connects medium to model and modeling, we may refer to semiosis in the world of technical instruments and social institutions. In any type of semiosis there is a connection between signs and bodies, signata and signantia, media/channels and significata, semiosis and materiality. Materiality of the signans (Petrilli, 1990: 365–401; Rossi-Landi, 1992: 271–299) is not limited to extrasign materiality, physical materiality (the body of the signans and its channel), and instrumental materiality (nonsign bodily residues of non-verbal signs, i.e., their nonsign uses and functions; Rossi-Landi, 1985: 65–82). More than this, materiality of the signans is ‘semiosic materiality,’ and in the sphere of anthroposemiosis it is also ‘semiotic materiality.’ Semiotic materiality is historicosocial materiality at more or less high levels of complexity, elaboration, and/or articulation (elaboration materiality). It is ideological materiality, extraintentional materiality (i.e., objectivity independent from consciousness and volition), as well as signifying otherness materiality (i.e., the possibility of engendering other signata than the signatum of any specific interpretive route) (Ponzio, 1990: 15–61, 1994: 42–45). Signs are bodies. However, the physical object may be transformed into a sign while still belonging to the world of physical matter due to ‘sign work,’ to use Rossi-Landi’s terminology. As a sign, the physical body acquires meaning engendered in the relation to something else, it defers to something external to itself, and it reflects and refracts another reality from itself (Voloshinov, 1929/1973: 10):

Signs also are particular, material things; and ... any item of nature, technology, or consumption can become a sign acquiring in the process a meaning that goes beyond its given particularity. A sign does not simply exist as a part of reality – it reflects and refracts another reality.

The following distinction is proposed: The expression ‘semiosic corporeality’ is used for bodies that have become signs in a world modeled by living beings where sign processes are languageless, and semiotic corporeality is used where bodies that are signs presuppose a world modeled by language (i.e., a human world).

As Marx (Marx and Engels, 1845/1968: 42), suggested, “From the start the ‘spirit’ is afflicted with the course of being ‘burdened’ with matter, which here makes its appearance in the form of agitated layers of air, sounds, in short, of language.” Here, language is “agitated layers of air, sounds”: This is about its physical materiality. However, language is also human consciousness and the organization of human

life: This is about the semiotic materiality of language as human primary modeling. “Language is as old as consciousness, language is practical consciousness that exists also for other men, and for that reason alone it exists for me personally as well” (Marx and Engels, 1845/1968: 42). Language is “the immediate actuality of thought. ... Neither the thought, nor the language exist in an independent realm from life” (Marx and Engels, 1845/1968: 503–504).

As a body, the sign is material in a physical sense; as sign, it is material in a semiosic sense; and as human historicosocial matter, it is material in a semiotic sense. In human worlds modeled by language, a body is a sign because of its historicosocial materiality. It is this kind of materiality that interests us when a body is taken into consideration and studied as a human sign (i.e., in a semiotic framework).

The Body in the Sign

In contemporary general semiotics, of which the most holistic expression is Sebeok’s ‘global semiotics,’ the criterion of life (i.e., of living body) is semiosis. Using the formula employed by Marcel Danesi to sum up Sebeok’s conception of the semiosic character of living beings, we may say that the body is in the sign (i.e., life is defined by semiosis). In the human animal, or ‘semiotic animal,’ this means that semiosis is the bond that links together body, mind, and culture (Danesi, 1998: 16). Studies on the manifestation patterns of semiosis in nature and culture show persuasively that in anthroposemiosis there exists an inextricable nexus among sign, body, and culture.

The type of sign (according to Charles S. Peirce’s typology of signs), in which the body lives and organizes its world on the basis of its species-specific modeling device, is first and foremost the ‘icon.’ In other words, iconicity is a basic signifying strategy in various life-forms. The iconic mode of representation is the relation of the sign with its referent through replication, simulation, imitation, or resemblance. Iconicity is the default form of semiosis, as Sebeok demonstrated by documenting that in vastly different species the manifestation of the capacity to produce signs stands in some direct simulative relation to their referents. In his works, Sebeok showed the variety of manifestations of iconicity in different species. Iconic signs can thus be vocal, visual, olfactory, gustatory, or tactile in their form. It may be that in humans too all signs start out as a simulative relation to their referential domains. Like Peirce, Sebeok viewed iconicity as the primordial representational strategy in the human species. Danesi (1998: 10) considers iconicity as an aspect of utmost relevance in the study of signs.

He emphasizes the important role of iconicity – documented by Sebeok especially in the final three chapters of his 1986 book – in the bond that links semiosis, body, mind, and culture. This inextricable nexus manifests itself in the form of iconic representational behavior. “Iconicity is, in effect, evidence of this nexus” (Danesi, 1998: 37).

Danesi (1998: 18–20) refers to the conception that the iconic mode of representation is the primary means of bodily semiosis as the ‘iconicity hypothesis.’ Consequently, another principle of global semiotics or semiotics of life is the ‘sense-implication hypothesis’ (Danesi, 1998: 17), which suggests that semiosis is grounded in the experiential realm of sense. This principle has a philosophical antecedent in John Locke – according to which all ideas came from sensation first and reflection later – but it is connected with modeling theory: what is acquired through the body is modeled differently through the innate modeling system possessed by different species. In fact, a species perceives according to its own particular anatomical structure and to its own particular kind of modeling system. Due to its species-specific modeling system, called language by Sebeok, *Homo*, the semiotic animal, not only is a sophisticated modeler of the world but also has a remarkable ability to re-create his world in an infinite number of forms.

The living body is initially an iconic sign – that is, in a world iconically modeled. This is valid too in the case of the human species on the ontogenetic and phylogenetic levels. Natural learning flow (i.e., the semiotic process in which children acquire knowledge) takes place through the body and human primary modeling system and proceeds from iconicity to the forms of modeling that children learn in the cultural context. To recognize that the body is, lives, in the sign with reference to human ontogenetic development in the body–sign–culture relation implies, as Danesi (1998: 61) states, that the semiotic capacities of the learner and the determination of his or her semiotic stage – rather than the subject matter to be learned – should therefore be the focus of education. The main implication of the formula ‘the body in the sign’ and modeling theory for education is of a methodological nature. If the teacher is familiar with the forms of the semiotic process in human learning, he or she would be in a better position to help the learner acquire knowledge and skill more effectively and efficiently. In fact, the key to successful learning, states Danesi, lies, arguably, in determining at what point the learning phase is ready to be overtaken by the following – that is, what the Russian psychologist Vygotsky (1934/1962) called the ‘proximal zone’ of learning. The semiotic approach to education, as the psychologist and semiotician Vygotsky claimed, is indispensable for an

appropriate foresight of the ‘zones of proximal development’ of each particular learner.

The Body in the Languages of Globalization and ‘Grotesque Realism’

Here, another argument is added to those proposed by Danesi in order to consider the implications of the formula ‘the body in the sign’ for education. Included as goals in education are the capacity for criticism, social conscience, and responsible behavior. On this subject, the previously mentioned formula has implications for an adequate consciousness and comprehensive interpretation of communication under present-day semiosis conditions (i.e., in the phase named ‘globalization’).

In the current age, characterized by the automated industrial revolution, the global market, consumerism, and the pervasiveness of communication through the whole production cycle (communication – production, communicative exchange, and consumption of goods that are messages), ‘the body in the sign’ highlights that globalization and therefore languages of globalized communication incorporate human life in all its manifestations. ‘Life in all its manifestations’ refers to life in the form of development (well-being and consumerism) as well as in the form of underdevelopment (poverty and impossibility of survival); in the form of health and of disease; in the form of normality and deviation; in the form of integration and emargination; in the form of employment and unemployment; in the form of functional transfer of the workforce, characteristic of emigration and migration, which expresses the denied request of hospitality; and in the form of exposition to war disseminated at a worldwide level, and planned as infinite. Again, incorporation of the body in the languages of globalized communication is not limited to human life alone. Life over the whole planet is now involved (even compromised and put at risk).

The planetary perspective of global semiotics allows for the necessary distance and indeclinable responsibility (a responsibility without alibis) for an approach to contemporaneity that does not remain imprisoned within the confines of contemporaneity itself.

The controlled insertion of bodies into languages of the production apparatus of global communication goes hand in hand with the spread of the concept of the individual as a separate and self-sufficient entity. The body is understood and experienced as an isolated biological entity, as belonging to the individual, as an autonomous sphere of private interests. Such an attitude has led to the almost total extinction of cultural practices and worldviews based on

intercorporeality (i.e., reciprocal interdependency), exposition and opening of the living body. Think of the ways the body is perceived in popular culture, discussed by Bakhtin (1965) in the forms of carnival and grotesque realism, where the body and corporeal life generally are conceived neither individualistically nor separately from the rest of terrestrial life and, indeed, from the world.

We refer to verbal and nonverbal languages of the grotesque body that we may find in all cultures on the planet and in the literary carnivalized genres of all national literatures. Grotesque realism presents the body as something that is not defined once and for all, that is not confined to itself, but as flourishing in symbiosis with other bodies, in relations of transformation and renewal that far exceed the limits of individual life.

Globalization, in which communication is exploited for profit, does not weaken the individualistic, private, and static conception of the body, connected with the rise of the bourgeoisie, but, on the contrary reinforces it. Division and separatism among the sciences are functional to the ideological–social necessities of the ‘recent new cannon of the individualized body’ (Bakhtin, 1965). This in turn is functional to the controlled insertion of bodies into the languages of the reproduction cycle of today’s production system. The interdisciplinary focus of global semiotics and attention on the signs of the interconnection between living bodies, human and nonhuman, are the presuppositions of an education that is free from stereotyped, limited, and distorted ideas and practices of communication under present-day conditions. This is another implication of the semiotic global approach for education and another possible meaning of the proposition chosen by Danesi to sum up what Sebeok said: ‘The body is in the sign’ – that is, semiosis is the bond that links the body, the mind, and culture.

Body Language and Speech in Human Phylogenesis

It appears virtually certain that early hominid forms that evolved to *Homo erectus* had language as an interior modeling device, although not speech. As previously mentioned, a modeling system is a tool with which an organism analyzes its surroundings. Language as a modeling system seems to have always been an exclusive property of the species *Homo*. It is an original *lingua mutola* (a mute, speechless language) described by Giambattista Vico in *La scienza nuova*, and which consists in the inventive, ‘poetic’ capacity to model different possible worlds at the basis of communication among members of the early hominid species.

According to Sebeok’s (2001a: 17–30) reconstruction, hominids to *H. erectus* (included) communicated with each other by nonverbal means, in the manner of all other primates. However, differently from the latter, its body signs were already body languages because they were founded on a specific human primary modeling device. *Homo habilis* (‘handy man,’ 2.4–2.0 million years ago) and *H. erectus* (‘upright man,’ more than 1.5 million years ago) with a brain volume of 800–1200 cm³ and a far more elaborate tool kit (including fire), had language, but not speech, and communicated with mute body languages (i.e., in an articulate and organized world on the basis of syntax inherent to human primary modeling). Speech did not appear until our own immediate archaic *sapiens* (‘wise man’) ancestors appeared (approximately 300 000 years ago), who, as indicated by evidence from rule-governed behavior, not only had language but also manifested it in the form of speech.

Thus, although language as a specific human primary modeling system emerged on the scene perhaps 2.5 or 3.0 million years ago, verbal language or speech appeared solely in *H. sapiens* as a communication system and developed slowly in *H. sapiens sapiens* also as a cognitive system, namely as a secondary modeling system. However, the human nonverbal system had body languages as communicative devices implicating, similarly to future speech, language not reducible to a communicative device: The specific function of language in the evolution of anthroposemiosis was not to transmit messages and give information but to model species-specific human worlds. Following Sebeok, we may say that language is essentially ‘mind work,’ whereas speech is ‘ear and mouth work.’

The relatively simple, nonverbal models that nonhuman animals live by, that hominids used to communicate, and that normal human infants (*in-fans*) likewise employ are indeed kinds of primary modeling. Consequently, the sign systems of nonhuman animals are merely body sign systems, whereas sign systems of the human animal (semiotic animal) including hominids and today’s normal infants are body languages. However, as a type of primary modeling, all these models are more or less pliable representations that must fit ‘reality’ sufficiently to tend to secure survival in one’s Umwelt.

Such ‘top-down’ modeling (to use a current jargon borrowed from the cognitive sciences) can persist and become very sophisticated indeed in the adult life of exceptionally gifted individuals, as borne out by Einstein’s testimonial or by what we know about Mozart’s and Picasso’s abilities to model intricate auditory or visual compositions in their heads in

anticipation of transcribing this onto paper or canvas. This kind of nonverbal modeling is indeed primary, in both a phylogenetic and an ontogenetic sense. Syntax makes it possible for hominids not only to represent immediate 'reality' (in the sense discussed previously) but also, uniquely among animals, to frame an indefinite number of possible worlds in the sense of Leibniz (Sebeok, 1991: 57–58).

Dialogism of Body Language

In Bakhtin's view, dialogue consists of the fact that one's own word alludes always and in spite of itself, whether it knows it or not, to the word of the other. Dialogue is not an initiative taken by self. As clearly emerges from Bakhtin's analysis of novels by Dostoevsky, the human person does not enter into dialogue with the other out of respect for the other but, rather, in spite of oneself. Both word and self are dialogic in the sense that they are passively involved with the word and self of the other. Internal and external verbal discourse is implied dialogically in otherness, just as the 'grotesque body' (Bakhtin, 1965) is implied in the body of the other. In fact, dialogue and body are closely interconnected. Bakhtin's dialogism cannot be understood separately from his biosemiotic conception of sign. On this basis, he criticized both subjective individualism and objective abstraction. According to Bakhtin, there cannot be dialogism among disembodied minds. Unlike platonic dialogue, and similarly to Dostoevsky, for Bakhtin, dialogue is not only cognitive and functional to abstract truth, but it is also a life need grounded in the inevitable interconnection of the self's body with the body of other.

For Bakhtin, dialogue is the embodied, intercorporeal expression of the involvement of one's body with the body of the other. The concept of the body as an individual, separate, and autonomous body is only an illusion. The image that most adequately expresses the condition of intercorporeity is the grotesque body (Bakhtin, 1965) in popular culture, in vulgar language of the public place, and in the masks of carnival. This is the body in its vital and indissoluble relation to the world and to the body of others.

In 1926, Bakhtin published an article on the biological and philosophical subject titled 'Contemporary vitalism' (signed by the biologist I. I. Kanaev, who subsequently declared that Bakhtin was the author). In his description of the interaction between living body and environment and opposing the dualism of life force and physical–chemical processes, Bakhtin maintained that the organism forms a monistic unit with the surrounding world. In his works of the 1920s, Bakhtin criticized both the vitalists and

the reflexologists, as well as both Freudianism and mechanistic materialism (e.g., the mechanistic view of the relation between base and superstructure). In Bakhtin's view, each of these different trends is vitiated by false scientific claims that underestimate the dialogic relation between body and world. Such approaches either dematerialize the living body or physicalize it in terms of mechanistic relations.

Bakhtin formulated the category of 'carnavalesque' in his study on Rabelais, which he extended to culture at a world level insofar as it is human and not just Western culture. The carnivalesque participates in 'great experience,' understood as offering a global view of the complex and intricate life of bodies, signs, and languages. As Bakhtin shows in the 1963 edition of his book on Dostoevsky, dialogue in the polyphonic novel has its roots in the carnivalesque language of the grotesque body. Plurivocality, ductility, and ambiguity of sense in verbal language (the expression of centrifugal forces in linguistic life) are also connected with the grotesque body. This is especially evident in the double character of verbal and gestural 'language of the public place,' of vulgar expression that is simultaneously laudatory and offensive. Most interesting on this subject is Bakhtin's reference (in Voloshinov, 1929/1973) to Dostoevsky's notes on an animated conversation formed of a single vulgar bodily word used with different meanings.

Foremost Expressions of Body Language

On the basis of the discussion of an issue that is essentially methodological and that also concerns body language (which coincides with the human semiosphere; i.e., the special semiosis characteristic of the semiotic animal, the sole animal gifted with the primary modeling device called language by Sebeok), we may now consider some exemplars of body language.

As the expression of body language, we have already discussed such human signs as gesture, face expression, vocal songs, and bodily movements used to communicate in phases antecedent to verbal language (i.e., speech) on both the phylogenetic and the ontogenetic level. These are nonverbal signs used by infants and hominids before the advent of *H. sapiens*.

Body language includes signs studied by physiognomics – the discipline that studies the relations between bodily characteristics, especially facial features, and psychic characters of the human individual. In semiotics, an important work on the bond between body and temperament is *The open self* by Charles Morris (1948), who used the typology ('endomorph,' 'mesomorph,' and 'ectomorph') proposed by psychologist William H. Sheldon in

The varieties of human physique and *Varieties of temperament* from a semiotic perspective.

Body language involves modifications of the cultural body, which belong to some complex sign system or merely to the binary presence/absence system, in a wide range of cultural alterations operated on the body from brands, tattoos, the stripping of the flesh, and piercing to maquillage, including the use of belladonna to dilate the pupils. Body language also includes dance, especially ritual dances, in which any small body movement can have a precise meaning.

We have also mentioned cultural modifications in the distinctive pheromonal function of the human chemical signature now studied by semiochemistry (Sebeok, 2001b: 96). On this subject, Sebeok cited both the novel *Das perfume* by Patrick Süskind, based entirely on the indexical facets of human semiochemistry, and a passage from Peirce concerning the study of odors as signs, with special reference to women's favorite perfumes. Human odors are classified by Sebeok as indexical signs, but this body language also has an iconic aspect (i.e., it also signifies on the basis of similarity): In the passage cited by Sebeok, Peirce's comment is the following: "Surely there must be some subtle resemblance between the odor and the impression I get of this or that woman's nature" (Sebeok, 2001b: 313).

Signs of body language are also signs that relate to phrenology, anthropometry, palmistry, and graphology or practices such as handwriting authentication and identification by fingerprinting or by individual unique sequences of DNA molecules. Moreover, body language is studied by the branch of semiotics called proxemics – that is, the semiotics of interpersonal space, originally developed by Edward T. Hall in the context of cultural anthropology.

Finally, body language includes such human sign systems as the 'sign language' of the American Indians (Sebeok, 1979), monastic signs (Sebeok and Umiker-Sebeok, 1987), and the language of deaf-mutes. The latter 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 modeling device. It is not true that dogs only lack speech. Dogs and other nonhuman animals lack language. Instead, the deaf-mute only lacks speech, as a pathology. This means that other nonverbal systems, such as the gestural, can be grafted onto the human primary modeling device. Also, due to these sign systems the deaf-mute is able to accomplish the same inventive and creative mental functions as any other human animal.

It must be emphasized that the connection between verbal language and body language largely

depends on their common participation in language understood as human primary modeling.

Concerning verbal intonation, and specifically the important phenomenon of language creativity called 'intonational metaphor,' Bakhtin (1926/1983) observed 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.

By using intonation and gesticulation, stated Bakhtin (1926/1983), an individual takes up an active social position with regard to certain values. Of course, this position is conditioned by social instances. Verbal intonation and gesture participate in the creative modeling of human language. In this sense, they belong to the anthroposemiotic bond relating sign–mind–culture. In this bond also reside the aesthetic–creative forces of body language that create and organize artistic forms.

See also: Anthroposemiotics; Biosemiotics; Gesture: Sociocultural Analysis; Gestures: Pragmatic Aspects; Indexicality: Theory; Kinesics; Performance in Culture; Semiotic Anthropology; Sign Language: Overview; Significance: Theory; Silence: Cultural Aspects; Social Semiotics; Structuralism.

Bibliography

- Bakhtin M M (1965). *Rabelais and his world*. Cambridge: MIT Press.
- Bakhtin M M (1983). 'Discourse in life and discourse in poetry.' In Shukman A (ed.) *Bakhtin school papers*, Russian Poetics in Translation No. 10. Oxford: RPT. (Original work published 1926.)
- Danesi M (1998). *The body in the sign: Thomas A. Sebeok and semiotics*. Toronto: Legas.
- Fano G (1992). *Origins and nature of language*. Petrilli S (trans.). Bloomington: Indiana University Press. (Original work published 1972.)
- Kanaev I I (1926). 'Sovremennyj vitalizm.' *Chelovek i priroda* 1, 33–42; 9–23. (New edn. (1993) in *Dialog, Karnaval, Chronotop* 4, 99–115.)
- Marx K & Engels F (1968). *Selected works in one volume*. London: Lawrence & Wishart. (Original work published 1845.)
- Marx K & Rayzankaya S (eds.) (1968). *The German ideology*. Moscow: Progress Publishers. (Original work published 1845–1846.)
- Morris C (1948). *The open self*. New York: Prentice Hall.
- Morris C (1971a). 'Signs language and behavior.' In Morris C (ed.). 73–398. (Original work published 1946.)

- Morris C (1971b). *Writings on the general theory of signs*. Sebeok T A (ed.). The Hague, The Netherlands: Mouton. (Original work published 1946.)
- Peirce C S (1931–1958). *Collected papers* (8 vols). Cambridge, MA: Belknap Press of Harvard University Press.
- Petrilli S (1990). 'On the materiality of signs.' In Ponzio A. 365–401.
- Petrilli S (1998). *Teoria dei segni e del linguaggio*. Bari, Italy: Graphis.
- Petrilli S (ed.) (2003). *Linguaggi*. Bari, Italy: Laterza.
- Petrilli S (2005a). *Percorsi della semiotica*. Bari, Italy: Graphis.
- Petrilli S (ed.) (2005b). *Communication and its semiotic bases: studies in global communication*. Madison, WI: Atwood.
- Petrilli S (2005c). 'Bodies, signs and values in global communication.' In Petrilli S (ed.).
- Petrilli S & Calefato P (2003). *Logica, dialogica, ideologica. I segni fra funzionalità ed eccedenza*. Milan: Mimesis.
- Ponzio A (1990). *Man as a sign. Essays on the philosophy of language*. Petrilli S (trans. & ed.). Berlin: de Gruyter.
- Ponzio A, Calefato P & Petrilli S (1994). *Fondamenti di filosofia del linguaggio*. Rome: Laterza.
- Ponzio A & Petrilli S (2000). *Il sentire nella comunicazione globale*. Rome: Meltemi.
- Ponzio A & Petrilli S (2001). *Sebeok and the signs of life*. London: Icon Books.
- Ponzio A & Petrilli S (2005). *Semiotics unbounded. Interpretive routes through the open network of signs*. Toronto: Toronto University Press.
- Posner R, Robering K & Sebeok T A (eds.) (1997–2004). *Semiotik/Semiotics. A handbook on the sign-theoretic foundations of nature and culture* (3 vols). Berlin: de Gruyter.
- Rossi-Landi F (1985). *Metodica filosofica e scienza dei segni*. Milan: Bompiani.
- Rossi-Landi F (1992). *Between signs and non-signs*. Petrilli S (ed.). Amsterdam: Benjamins.
- Sebeok T A (1976). *Contributions to the doctrine of signs*. Lisse: Peter de Ridder Press. (2nd edn. Lanham: University Press of America.)
- Sebeok T A (1979). *The sign & its masters*. Austin: University of Texas Press.
- Sebeok T A (1981). *The play of musement*. Bloomington: Indiana University Press.
- Sebeok T A (1986). *I think I am a verb. More contributions to the doctrine of signs*. New York: Plenum.
- Sebeok T A (1991). *A sign is just a sign*. Bloomington: Indiana University Press.
- Sebeok T A (2001a). *Global semiotics*. Bloomington: Indiana University Press.
- Sebeok T A (2001b). *Signs. An introduction to semiotics*. Toronto: Toronto University Press.
- Sebeok T A & Danesi M (2000). *The forms of meanings. Modelling systems theory and semiotic analysis*. Berlin: de Gruyter.
- Sebeok T A & Umiker-Sebeok J (eds.) (1987). *Monastic sign languages*. Berlin: de Gruyter.
- Voloshinov V N (1973). *Marxism and the philosophy of language*. Matejka L & Titunik I R (trans.). Cambridge, MA: Harvard University Press. (Original work published 1929.)
- Vygotsky L S (1962). *Thought and language*. Cambridge: MIT Press. (Original work published 1934.)

Boeckh, August (1785–1867)

S Fornaro, University of Sassari, Italy

© 2006 Elsevier Ltd. All rights reserved.

August Boeckh (Figure 1) was born in Karlsruhe on November 24, 1785, as the son of court secretary and notary Georg Matthäus Boeckh (1735–1790). Following the advice of his mother, he attended the well-known 'Gymnasium illustre' in Karlsruhe, where he received a special education under the supervision of mathematician and physicist Johannes Lorenz Böckmann (1741–1802), graduating as *Candidatus theologicus*. The influence of Schleiermacher and Friedrich August Wolf (1759–1824) led Boeckh to break off his theological studies in 1805 and devote himself to the study of Greek antiquity. Completing his studies in 1806, Boeckh went to Berlin to attend the 'Seminar für gelehrte Schulen,' directed by J. J. Bellermann, then headmaster of the Gymnasium

'Zum Grauen Kloster.' As a member of the seminar, Boeckh taught Latin, French, and history. He soon developed a friendship with Professors Buttman and Heindorf, with whom he founded the *Berliner Griechische Gesellschaft*, also known as *Graeca*. After finishing his dissertation at Halle University, he moved to Heidelberg. He immediately passed his *Habilitation*, thereby obtaining an *Extraordinariat*, which was raised to an *Ordinariat für Klassische Philologie* in 1809, in the seminar founded by Friedrich Creuzer (1771–1858). Through cordial relations with Clemens Brentano (1778–1842) and Achim von Arnim (1781–1831), Boeckh introduced in detail Schleiermacher's Plato translations in the *Heidelbergische Jahrbücher*. Two years later, W. von Humboldt offered him a professorship in Berlin, where he earned high praise in the organization of teaching and research at the newly founded university. In 1812, the philological seminar, developed

Body language is a part of nonverbal language. It includes things like stance, gestures, facial expressions, and even small things that are barely perceptible like a brief shrug of the shoulder or nod of the head. We frequently communicate both bodily and verbally and an estimated 70% of what we communicate may be nonverbal. If you really think your body language is off or needs improvement, picking up a book on nonverbal communication can help. Body language is the process of using facial expressions, gestures, gaze, tone of voice and postures in order to send and receive wordless messages. Body language is a powerful communicator. A large percentage of what we deliver is derived from our speech tones, our gestures, movements, mannerisms, expressions and idiosyncrasies. It is without doubt the stronger communicator, with so much emphasis being placed on how statements and stories are delivered rather than relying on actual words to get our statements across.