

Evolution and Continuity of Linguistic Systems

Isabel Victoria Galleguillos Jungk

Pontifical Catholic University of Sao Paulo & University of Sao Paulo, Brazil

Abstract

In the inspiring extract highlighted in this paper, Saussure observes how the relation between the elements of the sign change and evolve over time. In his *Cours*, he also details the elements of the linguistic sign and the principles governing them, defining language as a system of signs. Despite the natural resistance to changes in language in order to enable it to continually fulfill its function, that is, despite the necessary immutability of linguistic signs, they change over time, by being in constant contact with the communities of speakers, to whom language actually belongs. This may seem paradoxical because language is composed of arbitrary relations between signified and signifier that seek to represent concepts. Saussure refers to a principle of change in language linked to a principle of continuity. The present study focuses on the semiotic and communicational aspects of the development of linguistic systems in time, understood from a systemic perspective. It is sought to evince how signs perpetuate themselves and evolve through their constant interaction with real communities of language users. This approach can offer new insights about the continuity of linguistic systems as systems of signs that present immutable and mutable characters, and whose evolution can be understood based on open systems parameters, such as permanence, autonomy and sensitivity to flows of information, as studied by current theories and authors, showing that, to preserve its semiological life (CGL, 1959, p. 76), a living language must continuously reflect the purposes of its users.

Keywords: *linguistic systems, linguistic mutability, evolution, continuity, systems parameters*

Language is radically powerless to defend itself against the forces which from one moment to the next are shifting the relationship between the signified and the signifier. This is one of the consequences of the arbitrary nature of the sign.

[...] This is apparent from the way in which language evolves. Nothing could be more complex. As it is a product of both the social force and time, no one can change anything in it, and on the other hand, the arbitrariness of its signs theoretically entails the freedom of establishing just any relationship between phonetic matter¹ and ideas. The result is that each of the two elements united in the sign maintains its own life to a degree unknown elsewhere, and that language changes, or rather evolves, under the influence of all the forces which can affect either sounds or meanings. The evolution is inevitable; there is no

example of a single language that resists it. (CGL, 1959 [1916], pp. 75-76)

1. Introduction

Even considering that CGL has come to us indirectly, and that the singularity of the conditions of its publication (Bouquet, 2005) may have impinged probable distortions (Bouquet, 1997) on the text that became reference in Saussurean studies, the contribution of its ideas for the progress of linguistic studies is undeniable, as well as for various fields of the human sciences, such as semiotics, anthropology, psychoanalysis, among others.

In CGL, Saussure details the elements of the linguistic sign and the principles governing them. In the inspiring extract highlighted above, he observes how the relation between the elements of the sign changes and evolves over time. That passage proves to be the outcome of the observation of a visionary man who was ahead of his time and who was capable of perceiving refined nuances in the life and development of signs, observations which can be articulated with current tendencies in the development of sciences, a point that this paper seeks to evince.

For Bouquet (1997) “the Saussurean elaboration is an exemplary illustration of the virtues of human sciences within the scope of knowledge”. By devoting himself to conceiving the foundations of a future science of language, his work as a philosopher articulates a simultaneously epistemological and metaphysical analysis. Saussure defines language as a system, and the present paper focuses on the semiotic and communicational aspects of the development of linguistic systems in time understood from a systemic perspective that encompasses reality, which means that, based on systemic parameters, it is sought to evince how signs perpetuate themselves and evolve through their constant interaction with real communities of language users.

2. Immutability and Mutability of the Linguistic Sign

The linguistic unit is defined as a dual entity. The sign is equivalent to a relation between the *signifier*, an acoustic material image, and the *signified*, a mental abstract concept, united by a bond of association which has an essential feature: *arbitrariness*.

The linguistic sign is arbitrary because, in principle, every means of expression accepted in a society is based on a collective behavior or habit (CGL, 1959, p. 68). Its two sides are united by convention, since there is no reason why it is necessary to associate a particular sound to a particular concept. Therefore, concerning the idea represented by it, the signifier appears to be freely and arbitrarily chosen, though the choice, once it has become a habit, is imposed to the linguistic community using it (CGL, 1959, p. 71), for language presents itself as an inheritance from the preceding epoch, hence the sense of *immutability* of the linguistic sign. Convention is thus necessary and enables language to fulfill its function of communication, which results in the collective inertia that resists linguistic renewal (CGL, 1959, p. 73).

As everyone uses it every moment, any sudden revolution in language is impossible, otherwise its use would be compromised, discontinued, what Saussure emphasizes when referring to the necessary existence and continuity of language in any human community:

Absolute continuity of language:

- (a) Any interruption is inconceivable. One cannot imagine a people giving up speaking for one or two days, even during upheavals which bring everything else to a stop;
- (b) Individual initiative on the part of one, or a few, is not possible because linguistic knowledge is below the level of consciousness. One can imagine a deliberate and conscious initiative on the part of a few, but it is immediately curtailed by the fact that they make themselves unintelligible. (WGL, p. 121)

However, Saussure also observes that “time, which ensures the continuity of language, wields another influence apparently contradictory to the first: the more or less rapid change of linguistic signs” (CGL, 1959, p. 74). Hence, it is possible to speak without contradiction about the immutability and *mutability* of signs, since the relation between signified and signifier can be constantly displaced.

This is due to the *distinguishing characteristic of the sign* of always escaping the individual or social will to some extent (CGL, 1959, p. 17). Despite the natural resistance to changes in language in order to enable it to continually fulfill its function, linguistic signs change over time, by being in constant contact with the communities of speakers, to whom language actually belongs. This may seem paradoxical because language is made of arbitrary relations between signified and signifier that seek to represent concepts. Saussure refers to a *principle of change* in language linked to a *principle of continuity*, since “the two facts are interdependent: the sign is exposed to alteration because it perpetuates itself” (CGL, 1959, p. 74).

But Saussure (CGL, 1959, pp. 76-77) claims he cannot distinguish which change factors exactly generate language transformations and, in order to know what supports the necessity of change, “we must consider their great variety in order to understand the extent to which they are necessary”. He accepts every kind of change as a consequence of a universal law, since time modifies everything, and he sees no reason for language to escape that law. For him the causes of continuity are *a priori* within the reach of any observer, while the same does not apply to the causes of change over time, and he limits himself to observe the displacement of relations in general.

Yet, Saussure makes it clear that every language “implies both an established system and an evolution” (CGL, 1959, p. 8), evolution being an intrinsic factor to it, though not explaining it. Language presents a form of organization that he calls system, one of its intrinsic characteristics: “language is a system of signs that express ideas” (CLG, 1959, p. 16), “a system that has its own arrangement” (CLG, 1959, p. 22) and is subject to constant evolution, as everything else. For him, language should be studied as a human phenomenon (WGL, [1891], p. 95), and is a concrete homogeneous system formed by signs whose reality lies in the human brain:

Whereas speech is heterogeneous, language [*langue*], as defined, is homogeneous. It is a system of signs in which the only essential thing is the union of meanings and sound-images, and in which both parts of the sign are psychological. [...] Language is concrete, no less so than speaking; and this is a help in our study of it. Linguistic signs, though basically psychological, are not abstractions; associations which bear the stamp of collective approval – and which added together constitute language – are realities that have their seat in the brain. (CLG, 1959, p. 15)

As Nöth (1995, p. 62) states, a “major contribution of Saussure to the history of semiotics is his analysis of sign phenomena *qua* system”. Although he was the father

of structuralism, in CGL he did not use the term “structure”, but “system”, even defining the human capacity of language as the faculty of constructing “a system of distinct signs corresponding to distinct ideas” (CGL, 1959, p. 10). In what concerns transformation and evolution, the interdependency between the language system and the community of users is fundamental. As Emery and Trist (1965, p. 241) observed, “to think in terms of systems seems the most appropriate conceptual response so far available when the phenomena under study—at any level and in any domain—display the character of being organized, and when understanding the nature of the interdependencies constitutes the research task”.

The main function of language is communicational and being systemic is its main feature, which should not be considered simply another function performed by it. Accordingly, the use of language by speakers cannot be considered a disorganizational factor for its systemic nature:

If, then, for Saussure each language, at each moment of its existence, presents a certain form of organization, this is certainly not the effect of a function that preexisted communication, for language can have no function other than communication. For it is not true, according to Saussure, that the functioning of language—its utilization by speaking subjects for the purpose of communication—is a cause of disorganization [...]

Thus, according to Saussure, neither language’s function nor its effective utilization in this function is an anarchic factor that would endanger its organized character. Proceeding now in a positive manner, Saussure shows that language, at every moment of its existence, must present itself as an organization. Saussure labels *system* what his successors often call *structure*: this organization that is inherent in every language. (Ducrot & Todorov, 1979, pp. 15-16)

One can ask how does language change and keep its systemic structure at the same time. For Piaget (1968, p. 5), a structure is a system of transformations that involves laws, being the structure preserved or enriched by the interplay of its transformational laws. For Saussure (CGL, 1959, p. 75), change may take several forms and, whatever the factors of change may be, functioning in isolation or in combination, they always lead to a displacement of the relation between signified and signifier because, as Engler (1994, p. 849) observes, “the sign is an oppositional element within the framework of a value system (product of a permanent exchange and comparison between *signifiant* and *signifié*, on the one hand, and *signifiant* and *signifiant*, *signifié* and *signifié*, and sign and sign, on the other)”.

Although Saussure considered languages as systems of values that do not seek to reflect reality in the first place, he observed that the association of acoustic image and concept performs “an operation that may in a certain measure be exact and give an idea about reality, but that in no case expresses the linguistic fact in its essence and in its amplexity” (CLG, 1995, p. 162, my translation). Thus, linguistic exactitude relies on the capacity to transmit real aspects of its referent, an idea of what it really is, although conveying that sort of information cannot be considered its most fundamental feature, otherwise referring to unicorns and mermaids, among other fictitious objects, would be impossible. Kravchenko (2003, p. 93) observes that, “the sign itself is already a category as an entity distinguished in the continuum according to a certain feature, namely, its ability to be a vehicle for information (to have content)”.

Value is the essence of the language system itself (WGL, p. 12) and the sign owes its existence to a major social system of values (CLG, 1959, p. 113). Thus, to consider a term simply as the union of a certain sound and a concept may be misleading, for the term should not be isolated from the system, once “it is from the interdependent whole that one must start and through its analysis obtain its elements”. In this sense, the relation of his elaborations with the General Theory of Systems or *systemics*, and its search for dynamic principles common to all kinds of systems (Emery, 1969, p. 8), can be considered inevitable and promising.

3. Systemic Perspective

A system can be understood as a function of the set of relations among its elements and of certain properties shared by them. The concept of system generally implies “the idea of elements forming an ordered whole. The relations among these elements form the structure of the system. The elements may have common features, but their systemic character appears only in their function within the system” (Nöth, 1990, p. 198). Language is a complex system formed by several subsystems and the adoption of a systemic standpoint to understand the phenomena of transformation and evolution of language is justified by the eminently systemic, dynamic and complex character of the elements involved:

Language shows the features of a dynamic system not only from the point of view of language change (diachrony) but also in ahistorical processes of language use (synchrony). The synchronic dynamics of language, however, requires the perspective not of a static but of a *dynamic synchrony*. Although already postulated by Jakobson [...], this perspective has not yet become a dominant paradigm of current linguistics. (Nöth, 1990, p. 203)

From its inception with the Austrian biologist Ludwig von Bertalanffy, systemics has been developed by several writers to deal with the demands of complexity. As Bunge (2006, p. 129) remarks, the systemic approach does not replace other theories; it is, instead, a viewpoint or strategy to discover some particular features of systems. According to Santaella (2007, pp. 14-15), Jorge Vieira has dedicated himself to the construction of “pluri-inter and trans-disciplinary bases that have guided his path toward the core goal of constructing an epistemology of the complexity of his own”, a clarifying synthesis. Following Bunge’s proposal that systemics, because of its generality, “has a sizable overlap with ontology or metaphysics”, construed in the traditional sense as well as in the scientific sense (Bunge, 1979, p. 3), Vieira attributes a systemic character to every element of reality:

The proposal followed by Vieira for the constitution of such General Theory of Systems is that of Mario Bunge, who proposes a scientific ontology admitting that reality is systemic. By its ontological character, the notion of system presents general and common aspects to everything that exists in the Universe, constituting the so-called *systemic parameters* [...] the parameters highlighted by Vieira are contributions of several writers, such as Mario Bunge, Kenneth Denbigh, Avahir Uyemov, among others, but in the way they are formulated [...] they are the result of Vieira’s work and thinking over years of research with scientific ontology. (Santos, 2015, p. 11, emphasis added)

Systemic concepts are applicable to any type of system, including those of the humanities (Vieira, 2008a, pp. 24-28). Reality and its phenomena imply the need to have hypotheses concerning it, and a set of such hypotheses which has been increasingly adopted, in line with Vieiras's proposal and with authors as Bunge and Uyemov, can be summarized as follows: (i) reality is *systemic*, as a consequence of all the components of reality now being understood as related to systems; (ii) reality is *complex*, since every system is open and undergoes constant exchange with other systems and with its environment. That is why complexity is always present, not being tied to any specific systemic parameter; (iii) reality is *legaliform*; once every element of reality can be understood as an open system, the consequent exchange of information with other systems, its internalization and elaboration, generate habits consistent with the nature of the system and its past history, and which have the character of laws governing the behavior of the system in present and future interactions (Vieira, 2008b, p. 21).

The advantage of adopting such a metatheory is that "when we deal with very general features of things, we can use them to make inter- and trans-disciplinary comparisons and connections" (Vieira, 2008a, p. 26), based on the discussion of what some call *systemic parameters*, which form a set of general concepts sufficient for the representation of anything. What we will have then is a tool that, in addition to describing well any entity, will allow the glimpse or the perception of possible features or processes associated with systems that would be more concealed without the systemic approach (Vieira, 2008a, p. 28).

For Saussure (CGL, p. 73), language constitutes an over-complex system, since it is not completely arbitrary, and within which relative reason rules. Bouquet & Engler observe another evidence of the complexity faced by Saussure: in CLG, edited by Engler himself (Vol. 1, p. 274 in Bouquet & Engler, 2006, pp. xiii-xiv), one finds the passage in which Saussure evinces the prevalence of the mental nature in the linguistic phenomenon:

Every sort of linguistic unit represents a relationship, and a phenomenon too is a relationship. So it is all a matter of relationships. The units are not units of sound, they are created by thought. The terms are all complex:

(a / b) (a x b)

All of the phenomena are relationships between relationships. (Saussure in Bouquet & Engler, 2006, pp. xiii-xiv)

Concepts of system and complexity, continuity and permanence can be largely elucidated by the systemic perspective, capable of reconciling aspects that have long been treated as incompatible or inconsistent in the observation of certain phenomena. Referring to his semiological project, Saussure (CLG, 1995, p. 35) emphasizes that, if we are to consider the true nature of language, we must learn what it has in common with all other systems of the same order.

4. Open Systems and Fundamental Systemic Parameters

The concept of system is also applicable to every subsystem, since this condition is much more a matter of focus than of the nature of the concerned relations. For Bunge (1979, p. 12), a system is a complex object and, instead of thinking of hierarchies, one

must see that there are systems “of nested systems, i.e. a collection of systems each of which is a subsystem of a larger system (or supersystem)”. For Piaget (1973, p. 38), it is difficult to establish the relations between subsystems and the total system when the composition of the whole is not additive or linear, i.e. when complexity is present.

Complex systems can be understood in terms of its composition, environment and structure. “The composition of a system is the set of its components; the environment, the set of items with which it is connected; and the structure, the relations among its components as well as among these and the environment” (Bunge, 1979, pp. 4-5).

For Katz and Kahn (1966, p. 103), the open-system approach elucidates the processes of feedback essential to the system’s survival, identifying the repeated cycles of feedback, that is, information input, transformation, output, and renewed input. The feedback process is a “special kind of energetic importation, a kind of signal to the system about environmental conditions and about the functioning of the system in relation to its environment. The feedback of such information enables the system to correct for its own malfunctioning or for changes in the environment”. This dynamic balance of open systems makes them tend toward differentiation and elaboration, “both because of subsystem dynamics and because of the relationship between growth and survival”.

Systemic parameters are characteristics that occur in all systems, regardless of any particularities. The *basic* or *fundamental* parameters are those held by every system, irrespectively of evolutionary processes. They are: permanence, environment and autonomy, and the three are closely related.

Permanence can be understood as the “survival” of a system, as its feasibility or duration in time due to certain prior conditions where the system emerged, called *conditions of permanence*. “All things tend to be permanent” and, in this sense, “things or objects, as soon as they came to exist, ‘try’ to last, try to become permanent” (Vieira, 2008a, p. 32).

The duration of a system in time results from certain characteristics that adapt it to its *environment*, the second fundamental systemic parameter, which is a second system involving the first. “It is also visible that there is a medium prior to the system where those conditions [of permanence] act locally. That is also a system, which involves and will involve the referred system” (Vieira, 2008a, p. 33). According to the systemic ontology (Bunge, 1979; Vieira, 2008), reality is formed by open, connected systems, in a constant exchange of information according to systemic parameters, the most immediate of those being the environment system:

It is in the environment system that we find everything necessary for exchanges between systems, from energy to culture, knowledge, affectivity, tolerance, etc., necessary stocks to effect the processes of permanence. [...] What is observed is that all systems seem to be open at some level; systems tending to isolation and losing contact with the environment tend to die [...] (Vieira, 2008a, p. 34)

Autonomy, the third basic parameter, takes into account that every system is open at some level, making some kind of exchange with its environment, fundamental for the system to internalize information that tends to generate a kind of “stock” internal to the system that ensures its autonomy in relation to the initial conditions of permanence and to the environment changes over time:

the concept of open system is coherent with that of environment. As a result of the interaction between the system and its environment, energy and entropic exchanges lead the system to internalize information, from material and energy diversity (energy levels of an atom; vitamins or fats reserves in living systems, etc.) to several kinds of *sign diversity* (knowledge, competence, talent). As the internalization occurs, a kind of “stock” is generated in the system. It is the so-called autonomy. (Vieira, 2008a, p. 34)

By the application of these basic systemic parameters, one can assume that a language, since it emerges as such in a particular environment, will seek to maintain itself in time through the information stocks resulting of its interchange with other systems, including the environment itself, which provides it with the necessary autonomy in relation to the possible changes that may be experienced by other systems with which it interacts.

There are three necessary capabilities of the open systems (Vieira, 2008b, p. 21), which need to be exercised in relation to their environment in order to ensure their permanence in time: sensitivity, memory function and efficient elaboration.

The system must have *sensitivity*, in the sense of being able to react properly and in time to the variations or differences that occur in itself or in the environment. Those chains of events are process generators and manifest themselves to the system as signals or simply as *flows of information*. For Wiener (1948, p. 161), any organism is held together “by the possession of means for the action, use, retention, and transmission of information”. In this sense, the whole experience undergone by a system is a form of exchange that develops its sensitivity.

Sensitivity to flows of information coming from different sources, in its turn, should be able to feed a flexible *memory function*, a vital function once it is “the ability to preserve the results of past operations for use in the future” (Wiener, 1948, p. 121) and thus is capable of properly storing information and internalizing relations in an increasingly complex way.

the system must be able to retain part of that flow [of information], by means of a relational collapse, based on the progressive internalization of relations born from its internal activity and from the contact with the environment [...] The system begins to acquire not only the ability to perceive information, but also to perceive it *in a certain way*. Built over time, that function is actually a *memory function*, which attains a great deal of flexibility as the system evolves to higher levels of complexity. It is from memory, generalized here, that a system is able to connect its past, in the form of a background, with the transient present and with possible futures. The three fundamental parameters of the General Theory of Systems, that is, Permanence, Autonomy, and Environment, are thus manifested coherently. (Vieira, 2008b, p. 21)

Finally, it is necessary to have the *efficient elaboration* of the information stock according to the system’s needs, a typical ability of the cognitive systems due to their high degree of complexity:

An efficient elaboration not only in flexibility, but also in temporality. Systems tend to be permanent; being open, they need an environment; to be permanent, they evolve by elaborating information from a history. The latter is the noblest capacity, typical of cognitive systems. We can find systems of all kinds, in all levels of complexity of nature,

satisfying the requirements up to the second ability. [...] It is the capacity of efficient elaboration that guarantees the highest forms of complexity in our systemic reality. (Vieira, 2008b, pp. 21-22)

In order to survive, systems *explore* their environments, *working the stocks* adequate to their permanence. Consequently, there is “a certain hierarchy among the three basic parameters: first, permanence; it is effective through the environment, with the consequent elaboration of autonomy, therein including memory or habit”, according to Santaella and Vieira (2008, p. 34).

Language is a system in constant interchange with the minds of its users, in which those three abilities operate unceasingly, being open to them, which has undeniable consequences, leading to system’s deviations, modifications, transformations and evolution (Jungk, 2011). Saussure (WGL, [1908-9], p. 190), feels that the dimension of the linguistic phenomenon may be more extensive than he himself conceives: “the difficulty of saying what is general in language, in the *speech signs* which make up language, is the feeling that these signs belong to a science much vaster than the ‘science of language’”.

5. Evolution of Linguistic Systems

Saussure (WGL, [1891], p. 95) remarks that “the language system (*langue*) and the language faculty (*langage*) come back to one and the same thing; one is the generalization of the other”. The human capacity of representation is exerted as mediation through encoded systems of signs aimed for the transmission of certain types of information. A *specific language (langue)* is that capacity crystallized in a particular code or system of signs, in a given time and space and associated with a particular group of individuals, different from *speech (langage)*, which is the individual and concrete manifestation of human expression through *langue*:

But what is a language [*langue*]? It is not to be confused with human speech [*langage*], of which it is only a definite part, though certainly an essential one. It is both a social product of the faculty of speech and a collection of necessary conventions that have been adopted by a social body to permit to individuals to exercise that faculty. Taken as a whole, speech is many-sided and heterogeneous; straddling several areas simultaneously—physical, physiological, and psychological—it belongs to the individual and to the society; we cannot put it into any category of human facts, for we cannot discover its unity. (CLG, 1959, p. 9)

Language can be considered a complex set of systems, which includes gestures, cultural aspects and traditions, all habits incorporated by the community of speakers, which function as an environment for the language system. They are all imbricated in a complex whole of interrelationships, which contributes to the richness of language. Once languages are considered as open systems, their surrounding system (environment) is the locus where they relate to the most varied forms of expression, guaranteeing seamless exchanges of signs and, consequently, the maintenance of its autonomy and its own transformation and development:

In one of the last chapters of *Life and Growth of Language* Whitney says that people have

used voice to give signs to their ideas, just as they might have used gesture or anything else, because they found it *easier* to use the voice. [...] language is merely one case of the sign among others, and may not be judged independently. In its genesis, a linguistic process may come from any chance event. (WGL, p. 150)

Piaget (1973, p. 17) remarks that any functioning “involves production, exchange and balancing, that is, it continually presupposes decisions or choices, information and regulation”. Saussure’s approach brought synchronic and diachronic considerations to linguistic systems. Diachronic problems concern construction and evolution, and synchronic problems relate to balance, control and exchanges with the environment (1973, p. 18). For Piaget (1973, p. 60), the history of language and etymology do not suffice, “since the meaning of words change, just as the function of biological organs may change, to meet the needs created by the balance of the language” at a particular point of time. He observes (1973, p. 50) that a system of meanings “shows a maximum of disjunction between the history of sign-vehicles, on which their present meaning depends only in part, and the synchronic balance of the system which is relatively independent from diachrony”. However, Piaget’s insight shows how different levels of meaning interrelate in the semiotic construction and transformation of language overtime:

The general semeiology advocated by F. de Saussure provides [...] for systematic comparisons between the sign systems and various symbolisms or signalings inferior in nature to articulated language. But it also presupposes comparisons with what could be called symbolisms to the second power, or of a nature superior to language, that is to say using language but constituting ‘*signifiants*’ whose collective meanings are ideological and situated on different scale from verbal semantics: such, for example, are the myths, folklore stories, etc., which are conveyed through language but each of which is itself a symbol with a religious or affective meaning conforming to very general semantic laws [...]. (Piaget, 1973, p. 58)

Piaget (1973, p. 58) explains that not all thought is necessarily symbolic, but symbolism reappears in forms of thought whose value is linked to conscious or unconscious affective contents, which comprises an immense field of human production, studied by psychoanalysis, and mythological, folklore and art theories. Symbolic thought may even be found in certain “ideologies as they express momentary collective values and not rational structures (each of these manifestations, of course, being capable of ‘rationalization’ to some degree)”. Piaget also remarks that the more conventional the signifiers that operate in systems of meaning are, the more subordinate to the momentary needs and the more independent of the previous history they will be, presenting a minimum relationship between present balance and diachrony. In such cases, “fidelity to the past may even be a disturbing factor rather than a useful one, if it hinders the reorganization of perspectives, which would on the contrary be facilitated by a new symbolism” (1973, p. 61).

Diachrony and synchrony account for the complexity of the language phenomena that opens up and encompass many forms of expression and whose constant transformations over time may, thus, come from any chance event regarding different modes of expression. Nöth and Santaella remark that particular deviations from the abstract system are also a creative source of new signs for language:

Language [*langue*] is the abstract system, grammar, morphology and phonology, which determines speech, while speech (*parole*) is the use of language in concrete situations. When we speak, our speech can deviate and no doubt many times deviates from the rules of the language system by mistake or by free will. Such deviations cannot immediately influence the system, but they are the source of semiotic creativity and of evolution of language from generation to generation. (Nöth & Santaella, 2017, p. 106)

One of the main consequences of the three open system capacities required for a system autonomy—sensitivity to information flows, memory function and efficient elaboration—is language’s constant evolution. Systems do not remain fixed or static, going through changes that are more or less perceptible, but inevitable, in the course of time. Saussure perceived this evolutionary inexorability of linguistic systems, which change and evolve, adapting, transforming and regenerating themselves according to their interaction with environmental factors. Every linguistic system can be considered an open system of signs that are alive, as Saussure observed and, according to Santaella (2012, p. 14), to that extent, “not only life is a kind of language, but also all systems and forms of language tend to behave as living systems”.

As Bertalanffy (1968, p. 139) notes, “there is a fundamental difference between a living and a dead organism; usually, we do not have any difficulty in distinguishing between a living organism and a dead object. In a living being innumerable chemical and physical processes are so ‘ordered’ as to allow the living system to persist, to grow, to develop, to reproduce, etc.”. Therefore, a dead language is merely a system frozen in time, which is no longer open and exposed to this evolutionary process and, therefore, no longer has a *semiological life*, to use Saussure’s expression (CGL, 1959, p. 76). Hence, the understanding of those complex evolutionary processes depends on the understanding of the semiotic functioning of the elements involved in the various systems composing the entirety of meaning manifestations for which systemic theory provides unique possibilities of analysis.

Besides the capacity of representing real features of objects to some degree, what intertwines language and reality as its environment or supersystem, and is the fundamental point for the application of a systemic approach to language evolution is based on the assumption that the interrelations that constitute real entities are intrinsically systemic. Language is also one of these realities, which accounts for some of its features, especially for those referring to the way it transforms itself and continues in time.

Saussure observes how the continuity of language and its mutations are conjugated throughout its evolution. Each linguistic change can result either from mutations of signifiers or from changes of what is being signified, or from both, leading to the displacement of the relations between signifier and signified, modifying old signs, creating new ones and thus increasing the complexity and richness of language. He highlights that, when it comes to language, there is transformation, always transformation (WGL, pp. 104-105). As shown, understanding the systemic parameters and capabilities helps to elucidate how a language, as an open system of signs, seeks to remain in time, adapting to the changes and demands of the environment, using its autonomy since, while being sensitive to the flows of information, it is able to generate sign stocks and to elaborate them for its continuity, thus connecting efficiently its past, its present and its future.

Consequently, this evinces how semiotic and communicational aspects are closely

interrelated in language change and continuity because the system of language both serves and affects the communicational objectives of the community of speakers, as well as it is affected by those objectives over time. A *living language* reflects continuously the purposes of its users. It tends to transform itself in order to be able to remain and, at the same time, it continues to exist because its signs, in their vitality, are capable of undergoing such transformations, in a continuous process of development and improvement that affects all the constitutive characteristics of the linguistic system throughout its evolution.

Note

- 1 As the original expression used by Saussure in CGL (1995, p. 110) is “*matière phonique*”, the expression “phonetic matter” has been adopted in the present paper instead of the English translator’s choice “phonetic substance” (CGL, 1959, p. 76).

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About the author

Isabel Jungk (isabeljungk@yahoo.com.br) is Lecturer, Researcher and Advisor at the Pontifical Catholic University of Sao Paulo (PUC/SP), at the University of Sao Paulo (USP), and at Escola Superior de Propaganda e Marketing of Sao Paulo (ESPM-SP), Brazil. She dedicates herself to the study of semiotic theory, its applications and interdisciplinary dialogues, being the author of several articles and book chapters in her areas of interest, many of them available online.