

Semioticians Make Strange Bedfellows! Or, Once Again: “Is Language a Primary Modelling System?”

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Abstract Like other sciences, biosemiotics also has its time-honoured archive, consisting of writings by those who have been invented and revered as ancestors of the discipline. One such example is Jakob von Uexküll. As to the people who ‘invented’ him, they are either, to paraphrase a French cliché, ‘agents du cosmopolitisme sémiotique’ like Thomas Sebeok, or *de jure* and *de facto* progenitor like Thure von Uexküll. In the archive is the special issue of *Semiotica* 42. 1 (1982) edited by the late Sebeok and introduced by Thure von Uexküll. It is in the opening essay that Thure von Uexküll tries to restore Jakob von Uexküll’s role as a precursor of semiotics by negotiating the Elder with Saussure and the linguistics-oriented ‘semiology’ in his wake. However, semiotic mapping, in the strictly ‘disciplinary’ sense, of Jakob von Uexküll is no easy task because he ‘knew neither Peirce nor Saussure and did not use their terminology’ (Thure von Uexküll 1982,2). Because Thure prefers to call the Elder’s science ‘general semiotics’ (Thure von Uexküll 1982), this paper begins by assessing Thure von Uexküll’s semiotic configuration of Jakob, probe into the force and limits of the linguistic analogy, revisit the already time-honoured debate on the primary and secondary modelling systems, which was made famous by the Moscow-Tartu semioticians in the early 1970s, but severely criticized by Sebeok and his followers. The paper engages Sebeok from several fronts, directed first at his relegation of the Saussurian linguistic model, then at his critique of the Primary Modelling System, and finally at his reservation about evolutionism in light of the current debate on gene/meme co-evolution.

Keywords Biosemiotics · Linguistic model · Ferdinand de Saussure · Jakob von Uexküll · Thure von Uexküll · Juri Lotman · The primary/secondary modelling systems · Evolution

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Foreword

This paper, written specifically for the Eighth Annual International Gatherings in Biosemiotics, is nevertheless the product of a historical accident. Now this beautiful Cycladic island of Syros, worthy only of the ancient idylls of Theocritus, albeit short of pasture and sheep, recalls to my mind many fond memories of my previous links with fellow-biosemioticians. In June 2003 Professor Kalevi Kull organized a seminar on Semiotics between Nature and Culture for the International Semiotics Institute at Imatra, to which I had submitted an abstract on Thure von Uexküll's use and abuse of Saussure. In his reply letter of acceptance, Kalevi voiced his cautious concern and kind reminder that Peirce might be a better candidate than Saussure in discussing the Uexküllian legacy. For various reasons, I did not make to the seminar, but I am truly delighted that after a truancy of three years, I am back to the fold to address myself on a topic that has fascinated me for nearly three decades, namely, the linguistic model in semiotic studies. To pay homage to Jakob von Uexküll and Juri Lotman, and to show good will to Kalevi, I shall evoke the already time-honoured debate on the primary and secondary modelling systems, made famous by the Moscow-Tartu semioticians in the early 1970s. A paper on the said debate in relation to Lotman's semiosphere was presented at the 80th Anniversary of Lotman in 2001 and published in *Sign Systems Studies* 31.1 in 2003 (Chang 2003). Here I will continue my discussion partially in light on the current debate on gene/meme co-evolution, thus the paper can be read as a sequel and update to the previous paper. Prior to my discussion of the issue, with particular reference to the high priest of biosemiotics, Thomas A Sebeok, I shall provide an anterior space where the forerunners engage one another, and I shall begin with Jakob von Uexküll.

Uexküll and Language

For all his profound interest in the semiotic implications of animal communication, Jakob von Uexküll, the unwitting founding father of biosemiotics, rarely referred to language communication, let alone the linguistic model underlying *sémiologie* for nearly half a century. It had to wait for a few decades for his *de jure* progenitor Thure von Uexküll to shed light on Jakob's 'doctrines of sign' by bringing them into rapport with the Saussurian general linguistics. In one of the rare occasions on which Jakob did refer to language, i.e., his letter to Heinrich Junker dated 29th March 1937, cited by Thure, the author's comments were negative: "Linguistics itself is rather remote from my area", though he sang Junker's praise, if not purely out of courtesy, for the latter's having set out 'on the right path by making it [linguistics] into a biological science.' (qtd in Thure von Uexkull 1987: 176). Earlier in the letter, Jakob says: "Language interests me mainly as a means of communication between man and animals, and as a means of communication between animals themselves." (qtd in Thure von Uexkull 1987: 176) So much for Jakob's comments on animal language because the subsequent examples he gives (i.e., of pheasants, turkeys and dogs) fall squarely outside the realm of language.

Before going to Saussure, let me jump the gun by evoking the Swiss linguist's rigorous adherent and critic, Emile Benveniste. In his essay published in the

inaugurating issue of the journal *Diogenes*, Benveniste (1971 [1952]) discusses the fundamental discrepancy between human language and animal communication, and by so doing responds to the question raised by Jakob 15 years before. Benveniste's topical reference was the then extremely popular zoologist Karl von Frisch who had concluded his research on bee communication. Benveniste grants that

The bees appear to be capable of giving and receiving real messages which contain several data. They can register reports concerning the position and distance of a certain object. They can store these data in some kind of "memory". They can, furthermore, communicate them by means of symbols, using different somatic movements. (1971: 52)

The analogy between animal (bee) and human communications in terms of information transmission ends here, or it holds good only insofar as language is NOT introduced to muddle the matter. Benveniste argues that human language has other qualities not shared by bees, and for that matter, any other kind of animal. These qualities belong to different conceptual levels: from the basic physiological vocality, to the interpersonal behavioral dialogicality where the referential function and discursive performance coincide, to the more abstract level of linguistic message's infinite reiterability and metalingual self-referentiality (53). Finally, as Benveniste developed later, language is arguably the only model that performs the dual function of interpreting and being interpreted. This would have been a critique of Sebeok's relegation of the linguistic model to a tertiary rather than primary modelling system and his granting primacy to an ill-defined prelingual model in the animal world, as I shall recap later (Sebeok and Danesi 2000). Let me return to Thure's recourse to Saussure in his rereading of Jakob.

In his article, attempting to negotiate Jakob and linguistics, Thure curiously uses Saussure in his representation of Jakob's sign theory. Because of the subjective (subject-oriented) life nature of *Umwelt*-theory, i.e., living versus nonliving, rather than nature versus man, an analogy can be established between "the laws of formation it postulates with the nature-plans" and "the laws of formation of language" (6). This is a daring postulate and a challenging task. For one thing, Thure fails to explain how the analogy holds, and therefore begs the question. For another, one notices the apparent lack of a *tertium relationis* or *tertium comparationis* in the author's formulation, by virtue of which (1) nature-plans and language [-plans]; (2) formation of nature-plans and formation of language; (3) laws of formation of nature-plans and laws of formation of language can enter into homology. What is that *tertium relationis*? Among other things, it has to be a meta-theory that is capable of dealing at once with the object-semiotics [object-language] of nature-plans and language, and the meta-semiotics [meta-language] of biology and linguistics.

One may suggest the linguistic model as a candidate for this meta-system, but it seems dubious because language here is only one of the two *relata*, two object-semiotics rather than meta-semiotics. Thure notes the lack of an adequate term to define Jakob's field: "If we want to describe the role signs play in communication between subjects and between subjects and objects and if we do not have access to a generally accepted terminology of sign-processes, we are compelled to create a new terminology" (2) The term he has already suggested is 'general semiotics'(2). But

‘general semiotics’ is not a ‘new’ term. Although probably unknown to Jakob, the term, to Thure, with historical hindsight, is already quite old. Be that as it may, Thure’s definition of general semiotics, as the above quotation indicates, though banal, can be quite adequate.

However, *definition* raises the special situation of one kind of iconic sign according to Peirce. The term and its definition negotiated and equated by the copula ‘is’ are non-reversible. A lion is an animal, so is a bird; but an animal is not a lion or a bird. The above definition can be satisfactorily answered by many other terms. One can certainly nominate general semiotics as a candidate. But does the term (rather than terminology) solve the problem? The answer is obviously negative because it would raise the next question of ‘Which semiotics?’ i.e., ‘A semiotics based on which or what model?’ To answer this second question, one would have to ask and answer (would have asked and answered) a third question: ‘Which semiotics has more explanatory power?’ or ‘Which model is a better one?’ etc. One candidate would be no doubt ‘language’ because as Benveniste says, “language is the only interpreting and interpreted system”, i.e., as both object-language and meta-language, modelling system and modelled system. Now it is the very linguistic model as a ‘primary modelling system’, launched not by Benveniste, but by the Moscow-Tartu School, that has been under attack by Sebeok in his discussion of biosemiotics.

The Moscow-Tartu Modelling Systems

Since Sebeok takes issue with members of the Moscow-Tartu School on the primacy granted to the primary modelling system, let me rehearse the tenet of the original Russo-Estonian argument (Lotman 1977, Zaliznjak et al. 1977, Lotman and Uspensky 1978). First, a reminder is in order: that the distinction between Primary Modelling System (PMS) and Secondary Modelling System (SMS) should not be attributed to Lotman, but to A. A. Zaliznjak, V. V. Ivanov, and V. N. Toporov (1977) in their joint paper for the Moscow-based Academy of Sciences. It must be noted too that our co-authors do not explicitly make the PMS and SMS distinction; instead, they suggest the gradational and hierarchical relationships among strata, for example, a situation in which natural language mediates between the most abstract mathematical model and the least abstract but most connotated religious model (Zaliznjak et al, 47). What is concerned here is the relation between language and culture, where biology is out of the question. As Lotman and Uspensky rehearsed the issue succinctly in 1971:

A key question is the relationship of culture to natural language. In the preceding publications of Tartu University (the semiotic series), cultural phenomena were defined as secondary modelling systems, a term which indicated their derivational nature in relation to natural language ... Even though it is valuable to contrast primary and secondary modelling systems (without such a contrast it is impossible to single out the distinguishing characteristics of each), it would be appropriate to stress here that in their actual historical functioning, languages are inseparable from culture. No language (in the full sense of the word) can exist unless it is steeped in the

context of culture; and no culture can exist which does not have, as its center, the structure of natural language. (Lotman and Uspensky (1971, [Eng.1978], 212)

A linguistic model is a constructed simulacrum, and its construction takes place “in between the object language and the metalanguage” (Greimas and Courtés (1982 [1979], 196). The PMS is the fundamental linguistic model—i.e., of natural language, with its phonological, syntactic and semantic aspects—and the SMS is a derived one, though of a higher level, comprising of supralingual and ideological dimensions, and is superimposed, as it were, on the PMS. It is clear that the PMS and SMS pair has not been concerned with biology from the very beginning. Thus the argument based on the temporal order of other organisms preceding *Homo sapiens* and, in particular, *Homo loquens* is out of place. It is essential to note, as Lotman warns, that the order “first primary, then secondary modelling systems” do not correspond to “the historical process”, and no “chronological significance” can be attributed to it (1978: 95). In fact, the purely linguistic models based on the dialectic interaction between collectivized natural language versus individualized ‘poetic’ language, and that between natural language and various forms of artificial language, including the metalingual “speech about speech” (1978, 98), undermines chronology and hierarchy. These join to form, if one wishes, a more abstract and reduced, simplistic but holistic functional ‘loop’, which can be an iconic model *par excellence*. Only in this iconic sense and top-down perspective can an analogy be drawn with the Uexküllian functional cycle, but the initial mode of operation is none other than linguistic binarism. The closure formed by the primary and secondary modelling systems manifests itself most conspicuously in culture. Suffice it to give the example of literary genres, where one notices how the secondary generic constraints are made possible by the existence of the natural language on which they are embedded.

Sebeok’s Deconstruction of the Modelling Systems and Its Discontent

Once when biology gets involved, the binary pair of PMS versus SMS seems to be running into difficulties. Himself a renowned linguist, Sebeok has never been tired of debunking this linguistic model. Whilst discussing Jakob von Uexküll’s *Umwelt* and identifying the ubiquitous model of ‘reality’ (*Natur*) of all the organisms, i.e., “the systems of signs its nervous system is capable of assembling” (1988, 73–74), Sebeok rightly observes that “solely in the genus *Homo* have verbal signs emerged.” (74)

...only hominids possess two mutually sustaining repertoires of signs, the zoosemiotic nonverbal, plus, superimposed, the anthroposemiotic verbal. The latter is the modelling system which the Soviet scholars call primary, but which, in truth, is phylogenetically as well as ontogenetically secondary to the nonverbal; and, therefore, what they call ‘secondary,’ is actually a further, tertiary augmentation of the former. (1988: 74)

Here clearly Sebeok has turned the original hierarchy into a temporal-causal-developmental sequence. To counter the binary model based on language, Sebeok

and Danesi (2000) provide an alternative tripartite model approximating Peirce. In anthroposemiosis the triadic relationship is ‘developmental’ (10) and can be displayed as follows.

- (1) Primary Modelling System (PMS) = the system that predisposes the human infant to engage in sense-based forms of modelling.
- (2) Secondary Modelling System (SMS) = the system that subsequently impels the child to engage in extensional and indexical forms of modelling.
- (3) Tertiary Modelling System (TMS) = the system that allows the maturing child to engage in highly abstract (symbol-based) forms of modelling. (2000)

This new postulate in lieu of the Russo-Estonian one is not felicitous on several accounts. First of all, the very concept of model is loosely used and the disguised Peircian tripartition of icon, index and symbol offers little help. Here a model is no longer an abstract, hypothetical construct or a constructed simulacrum to account for a given set of semiotic facts, but a biological given, a ‘brute fact’, so to speak. But this biological given is never something out there and transparent, but always already constructed and therefore model-bound. Then, there is an apparent false analogy between phylogeny as the history of species, e.g., when language in the human species became ‘exapted’ (1988, 76) and ontogeny in the form of short time-scale child development. Sebeok’s (1988) endorsement of Bullowa’s (1979) ‘extra-verbal’ communication commits the same fallacy by drawing the mistaken parallel between the evolution of man and child development. Finally, language gets involved in the model one way or another. It’s more than irony when Sebeok and Danesi (2000) admit that:

Language is, by definition, a secondary cohesive modelling system providing humans with the resources for extending primary forms *ad infinitum*. From a biosemiotic perspective, the language code can be defined as the cohesive system providing the modelling resources for converting what von Uexküll (1909) called ‘concrete living existence’ into ‘active plans.’ (2000: 108)

By which definition is language a secondary modelling system? Are the ‘primary forms’ and ‘concrete living existence’ modelling system at all because of their anteriority. Is it because verbal signs appear later than non-verbal signs that they are secondary? Apart from the fallacy of temporality as causality, one wonders if the elementary A/W (approach/withdrawal) behaviour pattern in animals (1988: 74) can be regarded as a ‘model’ in any sense of the word. In fact, insofar as that sensory system or any other biological system is articulated and described in language, its *a priori* status and transparency would be compromised and undermined. Sebeok and Danesi have dismantled the Moscow-Tartu notion by proposing a ‘biosemiotic’ PMS which consists of two processes: osmosis and mimesis, both being prelingual simulative responses (2000, 45). There is no denying that humans, as other animals, respond to stimuli. But such responses, whether intentional or non-intentional, hardly qualify as modelling systems.

I suspect there are several levels of difficulty in the famous statement of Sebeok’s (1988) quoted above. First of all, the fact that all creatures, because of the love of God, are endowed with such ‘endosemiotic systems’ as the genetic code, the

immune code, the metabolic code, and the neural code (78), does not lead to the conclusion that these systems phylogenetically and ontogenetically constitute the primary modelling system which gives rise to the secondary modelling system of language. In terms of time sequence, these biological universals, so to speak, may have an anterior existence to the neurological centers for speech, Broca's area and Wernicke's area, lodged in the brain (Cavalli-Sforza 2000: 175, Maynard Smith and Szathmáry 1999: 150), and they may have caused the latter. But neither temporality nor causality account for the two modelling systems' intricate and mutually implicated relationship.

The second level of difficulty is a more crucial one, shared by Sebeok and the science philosopher that inspired him, Sir Karl R. Popper. That is, the confusion of object-language and meta-language, or object-semiotics and meta-semiotics. The various codes cited above are meta-descriptive terms, rather than notions, produced by the World-3 scientist through the imposition of the linguistic notion of syntax (meta-semiotics) on biological phenomena (object-semiotics), such as genes and nerves or neurons, if you like; they are, in truth, the product of the linguistic model.

The third level of difficulty results from the confusion of the relationship between model (meta-semiotics) and the modelled (object-semiotics). What is a model, are genes and cells and nerves *natura naturalis* and *bona fide* models? No, they are not, not only are they not, they are only secondary or tertiary. They are products, hence secondary, of the branches of knowledge making good use of a meta-language, hence primary, such as genetics, cellular biology, immunology and neurology. All these branches belong to Karl Popper's World-3 knowledge, i.e., in the Imaginary Library that is human culture. Sebeok believes his tripartition is in 'congruity' with Karl Popper's Worlds 1-2-3 model, which to me is illusory because there cannot be World-1 and World-2 knowledge without the mediation of World-3 knowledge. The Nature we deal with, for all its mutability and immutability beyond human power, reflects a unique history of research into Nature and our account of it, which we call science or academic discipline, and is made available, at least partially, through language. The history of organisms is long, but biology is short. Language developed with *Homo sapiens*, but modern theoretical linguistics is but 100 years old. Are we to compare organisms with biology (which version? cellular, molecular, or neural?) or humans with linguistics (which version? Socio-, psycho-, corpus, neural or computational?). It has already been dated to dispel such confusions.

Let me quote from a historiographer to show the infelicity in ranking models according to biological history before I turn to the evolutionary dimension of language. Hayden White (1973) commenting on 19th century thinkers' awareness of the unique nature of human historical process, has the following to say:

There was a sense in which one could legitimately maintain that man was both in nature and outside it, that he *participated* in the natural process, but that he could also *transcend* that process in consciousness, assume a position outside it, and *view* the process as manifested in those levels of natural integration which were demonstrably non-or prehuman. But, when it came to reflection on history, only man of all the beings of nature appeared to *have* a history; for all practical purposes, the "historical process" existed only in the form of a

generally human process. And, since “humanity” constituted the sole conceivable manifestation of that process which was called “historical,” it seemed impossible to make about the process as a whole generalizations of the sort that one could legitimately make about “nature” in its purely physical, chemical, and biological dimensions. (45–46)

Sebeok’s observation could have led to a different conclusion, viz. it is not that human had evolved from other primates, so zoosemiotics was to precede anthroposemiotics—both disciplines being young and christened in Sebeok’s illustrious life time, but that human continued to evolve—given the fact that evolution never stops—because of the evolution of his brain. Here language cuts in to accelerate its growth and begins to witness the co-evolution of gene and ‘meme’—a fledgling area of study yet to take official flight. Unfortunately, Sebeok is quite sceptic about evolutionary thinking, which he has restricted to the tracing of the origins of language, despite its recent advances in co-evolutionism.

The common flaw in much evolutionary reasoning—“the inference of historical genesis from current utility”—has egregiously contaminated virtually all research in the 19th century and even quite recently has confounded the problem of the origin of language, which have therefore proved intractable to most probes based on such unbiological principles. (1988, 76)

Language and Evolution Reconsidered

Intractable as it may have been, the origin of language remains a fascinating and legitimate topic for scientific enquiry. For all its nostalgia, it is not a metaphysical entity, nor a theological concept, whose *invitation au voyage* may constitute academic trespassing and may run the risk of shipwrecking. The assessment that 19th century studies had ended up in failure is an evaluative statement based on historical hindsight and on the strength, ironically, of the “normal science” of synchronic linguistics founded by Saussure.

It would be inconceivable to believe that evolution stopped with the *Homo sapiens sapiens*’ discovery of, and “adaptation” or “exaptation” to, language. In fact, the development of language serves not only to accelerate cultural evolution, but also to affect retroactively human cognitive structure. Thus we have a deluge of catch phrases such as ‘gene-meme co-evolution’ (Dawkins 2006 [1976]), ‘cultorgen as the basic unit of inheritance in cultural evolution’ (Lumsden & Wilson 2005 [1981]), ‘the co-evolution of language and the brain’ (Deacon 1997). The release of Dawkins (1976) book’s 30th anniversary edition and of Lumsden and Wilson’s (1981) 25th anniversary edition is no historical accident. For all its dubious status (Blackmore 1999), the meme has launched, as it were, a small-scale cultural revolution. And it would be in general plausible to assert that cultural evolution based on memetics (semiosis of meme, ‘sememiosis’) is reinstating language’s primacy in modelling function. And all of a sudden new light seems to be shedding on Lotman’s life-long obsession with indigenous cultural transmission, and

Benveniste and Uexküll can be re-negotiated via novel conceptual coupling. Now in language use it is memes that serve to affect genes, not the other way around. Even from a quantitative perspective, Cavalli-Sforza could observe: “If there is any interaction between genes and languages, it is often languages that influence genes, since linguistic differences between populations lessen the chance of genetic exchange between them.” (2000: 150)

It is well-known that Sebeok is not keen on Saussure, and it is better known that Saussure, in his pursuit of ‘general’ linguistics, is vehemently opposed to the 19th-century tradition in search of the origins of language and other versions of historicist studies. Therefore, Saussure might have endorsed Sebeok in the latter’s critique of origins studies. Throughout his lecture notes and writings, including the newly-discovered Orangerie manuscripts, Saussure is at pains to exorcise the evils and devil of historicism.

In the Orangerie manuscripts (Saussure 2006), Saussure uses a trite metaphor of searching for the source of a stream (*ruisseau*) to comment on the futility (*la nullité*) of such endeavour.

Looking at language and wondering at what precise moment such a thing “started” is as intelligent as looking at the mountain stream and believing that by following it upstream you will reach the exact location of its spring. *Countless things will show* that at any moment the STREAM exists when one says that it comes into being, and that by the same token it only comes into being when one ... This *coming into being (naissance)* can give rise to interminable debate, but its main characteristic is that of being exactly the same as that of growth (*croissance*). (63)

The analogy may look trite and weak, but Saussure is right in observing that the origin of language is over-determined and can lead only to interminable debate. Let me skip his theoretical stance behind such a critique of diachronism. Instead of ‘source’ hunting or more precisely, ‘source tracing’, Saussure—unknown to many—does have his own version of ‘evolution’. In *Course of General Linguistics* (1959), his account of the dissemination of protoplasm through the mechanism of analogy to beget metaplasms or paraplasms accounts for a mini phase of evolution from *sujet parlant* to *masse parlant*.

Here the biological metaphors of ‘protoplasm’, ‘metaplasms’ and ‘paraplasms’ are being used to account for the transformations of members constituting a lexical ‘paradigm’—a word used only once by Saussure, but appropriated and popularized by his successors like Roman Jakobson and André Martinet (1970) to stand for the semantic axis of language in its *in praesentia* and *in absentia* dialectics to complement the contextualised syntagmatic axis of language. Saussure uses the word of Greek, indeed Platonic, origin to stand specifically for a pattern, a cluster of conjugated units belonging to a single verb. These inflected forms enter into substitutional relationships among themselves, but they take turns to appear under the constraint of syntagm. One implication is that each instance of inflection in the paradigm can be a ‘meme’, subject to replication within the confines of a natural language. We are yet to ascertain which rule governs which paradigm’s formation and repetition. One current research suggests that some

paradigmatic units, such as regular verbs, replicate according to some innate mechanism, and others, such as irregular verbs, do so as a result of learning, i.e., by memory (Maynard Smith and Szathmáry 1999: 152), and these may require the functioning of different cerebral areas.

Saussure gives an interesting example showing erroneous mutation among children learning French. A child may say “*Je venirais!*” instead of the correct usage of “*Je viens!*” on the basis of the conjugation of one regular verb group he/she has learnt by heart. Theoretically, that mutant meme, if ‘fecund’ enough, could be picked up and imitated and duplicated by others until it becomes normal. The case is exactly like the dubious instance identified by Richard Dawkins, namely, the untraceable mutation of “for Auld Lang Syne” into “for the sake of Auld Lang Syne” (2006 [1976]) and replicated throughout the UK.

Saussure cites dozens of such transformations in Latin and French. To refute evolution, Saussure points out that the new form of *honor*, supposedly a ‘metaplasm’, was not derived directly from the original form of *honōs*, but through the mediation of a ‘productive group’ of *honōrem*, *ōrātor*, *ōrātōrem*, etc. and is more properly a ‘paraplasm’ because it coexisted with the older form *honōs* for quite some time (1959: 163). Instead of historical continuity, some kind of discontinuity is suggested by a series of analogical transformation. In fact, the paradigm is formed by three pair of homologies, eg. *honōs*: *honōsem*:: *ōrātōrem*: *ōrator*:: *honōrem*: *honor* (165ff).

The same formula surely applies to all other languages, including even the non-inflective Chinese. Although Saussure takes pains in proving that the mechanism of analogy serves to undermine the unbroken historical continuity, one could just argue the other way around that there is some kind of evolutionism based on discontinuity. For instance, one could visualize the afore-mentioned lexical variants in a cladistic tree, showing respective links and gaps, branching and the lack thereof, and further expand this fundamental structure in lexical paradigm to uncover a new persona of Saussure that is compatible to current genetic studies.

What are the methodological implications of the Saussurian model of inflection which he himself has expanded beyond the confines of verb conjugation? Inflection and other kinds of word-formation and the distribution and integration of lexical elements on the syntactical and discursive levels follow the basic logic of conjunction and disjunction, in language underlying the distinctive feature, and in human reasoning the simple form of analogy. The desire for, and the mechanism of, analogy have motivated Thure von Uexküll to bring into rapport Jakob von Uexküll and Saussure, theoretical biology and general linguistics. What’s in the name of analogy? In the Jakobsonian articulation of Saussure, analogy is metaphorical and operates on the principle of selection—an evolutionary concept—and substitution, so is model or modelling-system, which establishes the Saussurian “rapports associatifs”—a more accurate term than “paradigme.”

Now, do semioticians agree? Or do *biosemioticians* agree? The questions do not make much sense so long as history of semiotics, with its thriving biosemiotics offshoot, like all other histories, is inscribed by the discursive practice of debate, exchange and rejoinders. We biosemioticians should be contented for being strange bedfellows.

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