

Putting Grammaticalization to the Iconicity Test: A Cognitivist Perspective

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“Drop a word in the ocean of meaning and concentric ripples form”.
Robert Bringhurst (2004:1)

1. Introduction

The topic of *grammaticalization*, or *grammaticization* as some prefer to call it (e.g., Bybee et al. 1994), occupies a strategic place in the theory of linguistic iconicity, one of the most provocative and consistent paradigms that form contemporary research on natural languages (e.g., Givón 2002, Fischer 2004). Squarely rooted in historical and comparative linguistics, the notion of grammaticalization is based on the premises provided by the principles of linguistic iconicity which assign primacy to the lexicon, and contend that the emergence of words have been fundamentally constrained by at least some of the perceived properties of the objects or processes to which they refer. Similarly, syntactic structures are considered to have developed from word sequences that mimicked analogically the configuration of the scenes or development of actions they were meant to linguistically represent. This evolution is often conceptualized as a ritualization through which immediate iconic values are lost but not entirely forgotten (e.g., Givón 2002: 148-149, 158). Although research on grammaticalization forms a relatively autonomous subset of the diachronic study of languages, most of its proponents also subscribe to the basic tenets of linguistic iconicity with various degrees of qualification and interpretation. Whatever force may be construed as a cause for the grammaticalization process, let it be frequency or economy, this force is conceived as applying to an originally iconic lexicon. This primary iconicity is at least implied in all research using the notions of concreteness and abstractness. This is clearly evident from Givón’s latest summary of the view of human language as an evolutionary process, in which he refers to all the main researchers in this domain of inquiry in relation to grammaticalization (Givón 2002: 152). The common denominator of these various approaches is that “abstract” terms are conceived as having been derived from “concrete” words. It is also claimed that syntax developed over time from paratactic constructions under the influence of diagrammatic iconicity (e.g., Haiman 1985, Givón 1995), although this claim is far from substantiated (Fischer forthcoming). According to the theory of grammaticalization, this process led some lexical items to progressively lose their “concrete” referential values and be used as purely relational linguistic devices, thus becoming “grammatical”, this latter stage being considered as the extreme point on the scale of abstraction following a unidirectional logic of phonetic and semantic attrition often rendered by the chromatic metaphor of “bleaching” and the chemical or culinary notion of “reduction”.

Admittedly, such a simplified account may not do justice to the sophistication and complexity of the specialized discourse on grammaticalization, notably when it is confined to a limited period of time and to written evidence in the context of historical linguistics, but it nevertheless accurately sketches the broad lines of the epistemological perspective within which research on grammaticalization makes sense since it assumes,

often tacitly, the validity of the iconicity theory although other factors such as economy and frequency are also invoked as fundamental factors. This paper attempts to heuristically question some of the premises of such research by putting, so to speak, grammaticalization to the iconicity test.

2. How “concrete” can a word be?

Current usage among proponents of iconicity theory considers some lexical items to be more “concrete” than others, and those items are the ones that are the most likely to exhibit iconic features, such as sharing some common properties with their referents, replicating through their relative position in a sentence the mutual relations of their referents in reality, or showing common properties within a particular semantic field. There is no shortage of examples that appear to illustrate this phenomena. The question, however, is whether these examples can be explained by a law of nature or are cultural artifacts (Bouissac 2004). In other words: Are obvious or suggestive cases of iconicity windows on the very origin of language, or the results of more or less deliberate attempts at using arbitrary language sounds and the flexibility of *sui generis* sentence structures to model aspects of experience? The former hypothesis, which could be called “the mirror theory” evokes a universal process and must provide explanations for the fact that not all words are iconic. The latter, which considers *mimesis* as a form of *poiesis*, must account for the phonological and syntactic plasticity that it presupposes.

The notion of linguistic iconicity must indeed explain why there are numerous lexical items that cannot be precisely related to individual objects or processes but indicate abstract grammatical relations of coordination or subordination. Of course, these grammatical tools are only relatively abstract since at least some of them clearly evoke ancient lexical items which were once purely referential rather than syntactical. It is tempting to account for this lesser “concreteness” by invoking a natural wearing out through usage, along the line of the Zipf Law (1932, 1935), in the same manner as artifacts progressively lose their sharpness or specific functionality to become recycled for more general use. Hence, the idea that all lexical items wear out with time. However, why some do and some others do not comply with such a “law” is not clear. And why some words both keep their referential value and loses it to become grammatical tools at the same time (e.g., French *pas* [step] and *pas* [negation]), possibly even in the same sentence requires explanation. This phenomenon is usually described as “divergence” following a process of “layering” but describing a problem in metalinguistic terms does not necessarily constitute an explanation.

The very notion of lexical “concreteness” is problematic. A word is a concrete object only in as much it is actualized phonetically or in the form of visual or tactile symbols although, as Fonagy has shown, the tactile or acoustic qualities of some words may happen somewhat to reflect some perceived properties of the objects to which they refer. But such phenomena can be considered to pertain to the connotations rather than the denotations of the lexical items concerned. From this point of view “should” is not less concrete than “stone”. All words refer to some conceptual categorizations which could be said to be concrete only in as much as we could identify the particular patterns of neuron firings that coincide with their utterance or understanding. But, as a conceptual

actualization, the meaning of a word can only be a set of abstract relations whatever its referent may be in the context of an utterance. The word “stone” for instance is so undetermined that if one asks someone to bring a stone without providing any cue concerning its intended use, the range of objects that would qualify as “stones” between those that would qualify as “pebbles” and those that would qualify as “rock” or “boulders” is indeed very large and diverse. The context of the request might offer some clue as to what kind of stone is required, and the request may specify supplementary qualities such as large or small, round or rectangular, smooth or rough. This is so much true that if a particular stone is needed either a whole text must be attached to the request or a gesture must indicate unambiguously the location of the object or model its shape through a gesture. The concept of “stone” can only be a position in a network of classificatory oppositions relating to physical properties, technical practices, or metaphorical uses. The notion of “radial category”, which may arise through metaphorical and metonymic change, does not really help because there is no obvious reason for assuming that a request necessarily refers to a prototype and because prototypes vary with situations. The prototypical stone of a jeweler is different from the prototypical stones of masons, geologists, or Stone Age hunters. The conundrum of categorization has been amply debated in cognitive linguistics (e.g., Lee 2001).

For instance, a questionable use of “concreteness” as a lexical classificatory term is provided by an eminent proponent of the iconicity-inspired grammaticalization theory, Bernd Heine, concerning the directionality of conceptual transfer. Heine (1997: 7-8) contrasts the two following sentences:

- (1) a. They keep the money.
b. They keep complaining.

He claims that these sentences show that the verb “to keep” has two meanings in English and that (1a) is concrete or less abstract and (1b) is more abstract to the point of being an auxiliary (grammaticalized). One may wonder on which ground such a distinction can be made. Heine invokes the fact that (1a) is compatible with complements that are “visible and tangible” whereas “complaining” is more abstract. However, the property of being audible such as the process of “complaining” can be assumed to be (either in the form of vocal expression of pain or in the form of articulate language) is not less concrete according to Heine’s criteria than a referent that is “visible and tangible”. Furthermore, complaining can be made in writing or through gesturing.

If “keeping the money” were “concrete”, as Heine claims, it could be expected that sentence (1a) could not be ambiguous. However, the following examples show that this is not the case since the sentence by itself could admit the following sentential contexts in which “to keep” has markedly different meanings:

- (2) a. Sweepers keep the money they find on the floor.
b. Modern farmers keep the money at the bank
c. Security guards keep the money (from being stolen).
d. A miser keeps the money rather than spending it.

In language use, no verb appears without a context and the context actualizes some semantic properties of the verbs which necessarily are relatively abstract since they can combine with other sets of properties represented in other lexical units to produce complex meanings appropriate to the contextual situation. A verb such as “to keep” is part of a cognitive configuration of values with respect to the possible relations of an object to an agent. If “to keep” is understood as located at one of the poles of a cognitive structure concerned with the movement of objects, which includes for instance “to loose”, “to give back” and “to spend” at the opposite pole, it is possible to analyze this cognitive configuration as follows:

Given an agent and a moveable object (or another agent) that is under its control, this object (or other agent) can be let go or not let go, that is, change position in space, and this change can be effected voluntarily or not voluntarily. In its most abstract meaning within this configuration, the verb “to keep” implements the negation of change of location or state since “to change” is also a pole in a cognitive configuration of values which are mutually definable such as, for instance, with respect to “to stay at the same place” or “to persist in a particular state”.

It is not necessary to assume a change of semantic status or grammatical category supposedly brought about by the semantic “wearing out” of a “concrete verb” to explain the meaning of “to keep” in the expression: “They keep complaining” because it is exactly the same abstract or formal values that are actualized as in the sentence “They keep the money”. Other expressions such as “keeping calm”, “keeping one’s cool”, “keeping one’s membership in good standing” and “keeping one’s hat on his head” variously select, through the choice of complements, whether the absence of change applies to location, process or state.

Furthermore, if we consider that all actual linguistic communication act is ultimately motivated by the information it provides, and if information is understood as the resolution of lesser or greater uncertainties, the abstract properties selected by the context in the case of “to keep” must be assessed with respect to a horizon of expectation formed by the opposition between discontinuing and continuing a change of location, process or state. In both examples given by Heine, which cannot possibly be uttered out of context in real life, the verb implies that the opposite could have been anticipated either because it is conform to the ethical norm (for instance, in 1(a) they should give back the money) or because the process should have stopped (for instance, in 1(b), they were given what they asked for). The use of “to keep” in those examples without a specification of the contextual constraints is meaningless and cannot prove anything, certainly not a “semantic wearing out” that is not even indicated, in this case, by a phonetic reduction.

Failing to understand that the cognitive structures underlying the lexicon for a community of users are necessarily abstract in the sense that they are sets of cognitively relevant oppositional properties which allow the mapping of particular instances of communication, leads to assigning degrees of concreteness to individual words. Of course, in any culture, some referents are so specifically representative of their category that their image becomes intimately associated with the lexical unit that designates them, thus creating the illusion of concreteness in spite of the fact that this lexical unit may apply to a large number of individual objects that share only a small subset of the properties constituting the semantic configuration of the unit.

The claim that semantic structures articulate complex oppositions (e.g., Greimas 1983, 1987) is not incompatible with a naturalistic view of the origin of language. It is indeed possible to construe these binary semantic structures, following the model of phonological oppositions, not as a priori principles of classification or as the “hopeful monsters” produced by a genetic mutation, but rather as the result of the evolutionary changes which molded human perception and cognition. Stereotyping is adaptive in situations when fast decisions have to be reached in order to survive, even if such a strategy at times fails. Hesitating in the face of uncertainties, for instance whether an object is animated or not animated, leads far more often to failure than acting upon snap decisions. Systematically trying to sort out grey areas would be maladaptive in as much as it would take too much time to reach a decision (Glimcher 2004). Such an evolutionary perspective construes semantic structures as robust survival strategies rather than rigid devices, and allows for some degree of plasticity if only because evolutionary and developmental forces are never at rest. The natural process of categorization can be amplified by cultural constraints and is not ontologically divorced from the latter. Abstraction, hence grammaticalization, is not a secondary phenomenon as iconicity theory contends but can only be an adaptive behavior constrained by natural selection. The capacity of thinking analogically may have been enhanced by the emergence of grammar but fundamentally pertains to the evolution of cognition, an adaptation that must predate the earliest forms of language.

3. How “abstract” can grammar be?

Discussions of grammar often overlook the fact that they are conducted in a metalanguage that was developed in the context of literacy and as a result of the specific visual patterning that characterizes writing in its many forms. For instance, it seems that the hypothesis that reductions caused by the principles of frequency and economy may be assigned to strategies devised by scribes rather than by purely oral processes would deserve to be examined. The implications of reflecting upon language in general through the mediation of particular languages that are observed and conceptually manipulated in their written forms have not been sufficiently explored although there have been some pioneering efforts in this direction (e.g., Goody 1987: 258-289). It is all too easy to take for granted that a written text is a reliable sample of natural language when it is actually a sample of an artificial system initially devised to visually encode auditory signals or other information such as the mapping of a path with respect to some landscape beacons. The information is obviously better protected by a code that is restricted to a linguistic community, or a smaller group within this community, than if it were represented by graphs and images. Any set of symbols to which some distinctive values are assigned according to some conventions operates as a calculus regulated by its own algorithmic laws. A literacy calculus, let it be logogrammatic, syllabic or alphabetic, is used to approximately map language utterances but is useless if taken independently of the natural language it translates into its visual symbols. Archaeology provides many examples of the impenetrability of such systems because of the incompleteness of the information they encode. In natural language verbal interactions, the situations within which utterances are embedded afford enough semantic constraints for usually (but not

always) allowing the effective transfer of relevant information. It is likely that many grammatical constraints which are observed in literate languages were originally parts of the artificial design aimed at disambiguating the graphic encoding of verbal utterances. Moreover, it should be pointed out that the representative function of language is fore-grounded in the written medium whereas speech is prominently indexical and performative. This dissymmetry of functions entails consequences and ignoring them can lead to biased linguistic theories.

But, irrespective of the object a calculus may map more or less adequately, it is a system in its own right and its formal properties can generate specific transformations in the spatial distribution and transformation of its elements. For instance, the calculus that makes possible alphabetic writing by spatializing speech considerably expands the working memory within which a single utterance can be structured and displayed, hence allowing for a theoretically infinite embedding of propositions within propositions. But this is a geometrical or topological property rather than a linguistic one which depends on the capacity of working memory instead of visual discrimination. Even though, there is of course a necessary limit to such a conceptual “infinity” since a linearly written text is dependent on the constraints of human visual perception and memory for its functionality. The archaeology of writing and the history of epigraphy show that various conventions have been introduced over time. Some, such as punctuation, have been developed to specify the melody line that cues listeners of a verbal message about its spatio-temporal organization: others, such as framing or underlining, are specific to the medium in which the writing calculus operates. The latter can artificially structure a text in a visual dimension that is outside the scope of the possibilities offered by verbal utterances alone. In modern western writing systems, the introduction of spaces between words derives from conventional segmentations – and the ensuing categorization of the segments – in spite of the fact that these gaps do not reflect corresponding pauses in speech but result from a secondary cognitive process of artificial segmentation. In verbal interactions, sudden stops and silences occur but not at the junctures which are created by the metalinguistic knowledge which at some point in time interfered with the initial calculus that made writing possible.

From this perspective, it should be clear that grammar conceived as a system of abstract rules derives from the necessity of teaching literacy in societies (or particular groups within societies) and is essentially conventional and normative.¹ So-called descriptive linguistics records those rules in the metalanguage of literacy. Linguists who have undertaken to test the “grammaticality” of a variety of possible sentences in any particular language, have tested the level of literacy knowledge of their informants rather than whether or not the meaning of these sentences was understandable in the language in which they were formed. Grammaticality in such a context refers to the conformity with a particular convention (normative grammar) standardized by a social group at a particular

¹1. This point has, however, been disputed by Olga Fischer who argues that each child builds up some grid, some grammar system in learning its language. Referring to Dan Slobin’s argument that children begin with fairly concrete collocations and slowly build up toward more abstract linguistic ‘rules’ or ‘schemas’ based on these collocations, provided that they are frequent enough, she argues that if there is no grammar guild-up, why do English children automatically produce ‘the red car’ and not ‘the car red/car the red/red the car’ etc.

point of its historical development. Most of the sentences adorned with the ungrammatical symbol (*) in contemporary linguistic discourse make perfect sense in spite of being unconventional. It is indeed possible to contend that, given a sufficient cognitive development and a basic convention of word order, let it be SOV or SVO, most so-called “ungrammatical” sentences are as efficient as “grammatical” ones for conveying relevant information as long as the verbal interaction takes place in context. Furthermore, most of the sentences artificially constructed such as those that purport to demonstrate the infinite potential of the recursive quality of grammar, strictly result from the combinatorial potential offered by the literacy calculus and its arbitrary segmentation and categorization as they are displayed in pedagogical or theoretical texts. The reason for evoking Universal Grammar theory at this point of the argument is that it imposed the idea, beyond the restricted circle of Chomsky’s followers, that grammatical rules are highly abstract and transcendent. The proponents of linguistic iconicity, while refusing to accept the innateness and transcendence of these rules, have nevertheless tended to agree that grammar is abstract and have undertaken to explain this assumed abstractness as a degraded form of concreteness or iconicity.

Regarding segmentation and categorization, it is interesting to note that developmental psycholinguists test pre-literate young children from the point of view of their own knowledge of the written language and its conventional graphic representations. Word categorization, notably the distinction between “content words” and “function words”, belongs to the metalinguistic discourse and carries a load of assumptions, among which the most powerful (and perhaps the most invisible) one is that there are such entities as “words” endowed with identities and specialties. As it has been suggested above, language is perceived through the lenses of the written text and centuries of legislating the graphic encoding, segmentation and normalization of verbal flows.

One may wonder on which ground, in a phrase such as “going to town”, “to”, which never occurs by itself in discourse, can be considered as an entity of a totally distinct nature with respect to words like “town” or “going” for example, except in the pedagogical discourse that reflects its conventional graphic representation. If, however, for the purpose of analysis, “to” is extracted and if its contribution to the meaning of the phrase is analyzed, it does not seem that it is more abstract or less concrete than “town” or “going” which undoubtedly would be considered to be “concrete” or “content” words according to the proponents of grammaticalization theory.

Let us suppose that it makes sense to scrutinize the semantic of “to”, that is, the kind of relevant information it provides to the compounds in which it occurs. Its meaning implies a fundamental distinction between two positions which are bridged by a vector. The context specifies whether these positions are locations, agencies or states of affairs (e.g., going to town, presenting something to someone, going from bad to worse), and, as such, refer to concrete situations. It is only in the metalanguage that “to” can be virtually construed as not referring to any particular situation. Its status is not markedly different from a verb like “going” from a cognitive point of view. The verb “going” implies indeed the same abstract cognitive structure as “to” and can actualize a great diversity of concrete meanings depending on the nature of the disjointed positions (places, times or states of affair) specified by the context of the utterance in which it occurs. When the two, “going” and “to”, are contrasted as “concrete” versus “abstract”, the former is

conceived as being perceived in an actual utterance, and the latter is conceived as it is represented in the context of a grammatical list rather than in its conventional use as indicator of the infinitive form of a verb like in “to go”. The fallacy of the concreteness of the lexicon has been addressed in the previous section of this paper. Let us simply note that “town” may evoke a very concrete experience in each urbanite (and functions as a label for this compounded experience) but its meaning fundamentally depends on a configuration of binary oppositions bearing upon the semantic classification of various degrees of density of human settlement and saturation of space as well as relative mutual positions with respect to center and periphery. But in a given utterance it may refer “concretely” to any city whatsoever by specifying one of the polar positions “abstractly” (or “indexically”) represented by “going to” that could also be written *gointo*. Actually, “goint’ town” or, even, “gointown” [going town] would convey effectively the intended meaning although in a way that would disclose a lack of adherence to current normative grammatical forms, or even, possibly, evidence of illiteracy.

The point made here is that “going” and “to” are somewhat conceptually redundant because they are mutually inclusive. They can be semantically represented by the same structure that consists of positing a disjunction and its virtual resolution. They are cognitively equivalent, equally abstract in themselves (or rather in relation to the other values defining the cognitive system implemented by the English language) and equally concrete in context. To which extent other languages display similar relations is a question that cannot be fully addressed here. However, a brief example taken from the Finno-Ugric linguistic family will provide a brief vista into the possible generality of this phenomenon. Laszlo Feres (2004) consider compounds verbs in Komi-Zyrian, notably those verbs ending in *munni* [to go] with a noun, an adjective or an adverb as first component. For instance, *nirmunni* [come to life, revive, be reborn] or *nummunni* [start smiling] in which the first constituents respectively mean “sprout, germ” and “smile”. It seems obvious that Komi-Zyrian *nummi* has the same conceptual properties as English “to go” since the information it conveys in the two compounds is the transition from one state of affair to another, from no-life to life, from no-smile to smile (Feres 2004: 8-9).

4. The notion of grammaticalization path

Let us now turn to the morphological and semantic process that the proponents of grammaticalization hypothesize in order to account for the assumed change of status from “content words” to “function words”. The whole theory hangs indeed from the assumption that some concrete words progressively lose their concreteness through a “natural” phenomenon they call semantic “bleaching”, which allows those words to be used as mere syntactic tools. Whether this results from pragmatic inferencing (Hopper & Traugott 2003: 67-68) or from “the role played by the overall system of grammar (possessed by the speaker) in which the process takes place” (Fischer 2006, personal communication), the assumption of a progressive transformation from specificity to generality remains the key metaphor through this phenomenon is modeled.

The notion of grammaticalization path must assume that there has been a starting point for the process it claims to describe in each case. This starting point must be arbitrarily chosen since too little is known about the origin of language for confidently

assigning an absolute beginning to any element of the lexicon. Any past written form of an English word and its meaning(s), for instance, can hardly be considered as a starting point. Historical linguistics provides a sense of the infinite regressus toward hypothetical anterior states of any known language. Moreover, the notion of grammaticalization path presupposes that any starting point must be “concrete”, that is, “primitive”, in compliance with a certain representation of human cognitive evolution which is projected upon the axis of language evolution. The model of language evolution that is invoked in this conceptualization is somewhat reminiscent of August Schleicher’s theory of the organic nature of languages, understood as organisms which are submitted to the laws of biological evolution (Schleicher 1863). Perceiving language changes through such a metaphorical filter raises a first conceptual problem: it construes language as an evolving entity and values abstraction as an evolutionary “progress” rather than an adaptive selection with respect to particular environmental or contextual constraints. This metaphorical model conflates biological, cultural and linguistic changes along a virtual scale that is demonstrably fallacious. In addition, if abstract thinking is considered a cognitive achievement supported by complex grammars, this leads to construing as stable entities (states of arrival of the grammaticalization process) the grammatical structures that are transferred to each new generation whereas these structures are themselves transient and only appear stable if they are considered within a relatively short period of historical time to which institutional literacy lends an illusion of permanence (Deutscher 2005). It is more than likely that the barbarisms and solecisms contemporary grammarians denounce in the languages of the Internet’s blogs will be the norms of tomorrow.

Moreover, invoking the original meaning of any element of the lexicon forces one to inject dubious etymological knowledge into the semantic description that forms the basis for the theory of grammaticization path. Such speculations imply a semantic theory that is never made explicit and in which original reference to a concrete object is taken for granted. Bybee (1994) offers telling examples of this approach. In order to account for the grammaticization of the term meaning “face” that may be used in some languages to refer to the “abstract” relation “in front of”, she indicates that a step on this path may have been the metaphorical use of “face” to designate the anterior surface of any object such as a cliff, a house, etc., thus assuming that the meaning of “face” as the part of the human head where the eyes, nose and mouth are located is the point of origin of this path. But at which point in the history of the English language, or any language for this matter, can we securely stop the evolving process in reverse? The case of “face” is particularly revealing. There is nothing in the Latin etymology of *facies* that indicates a primal connection with the face in the modern sense. The word is related to *facere* whose ancient meaning is “to place”, “to posit”, then “to make”, and the nominal derivation *facies* meant “form”, “aspect”, “way of doing something”, much later coming to designate the appearance of a building (façade) and the anterior part of the head (Ernout & Meillet 1967: 209-213). The popular Latin *facia* eventually became “face”, attested in English with its current value in 1290 (Murray 1901). There are drastic limitations to the validity of the description of any natural language which relies on historical arguments, such as the proponents of grammaticalization do, by arbitrarily construing a given state as the starting point of a process.

The theory of linear grammaticization path might have some validity if unidirectional successive changes in the degree of generality of a word could be observed within the limits of a well documented historical period. In fact, the examples of phonetic and semantic reductions which are usually adduced to drive the grammaticalization point home overlook a well-known feature of phonetic and semantic changes: such changes are systemic and apply to the broad spectrum of the phonological and semantic spectrum of a language, not merely to isolated individual sequences of morphological lineages, although there may be a combination of such changes. Supposedly grammatical words undergo the same phonetic reductions as other elements of the lexicon under the same blind forces with various paths leading to similar results such as, for instance *eau* (water), *aux* (garlic) and *au* (to the [masc.]) in modern French [o]. Since all languages are demonstratively in flux under the pressure of a great variety of constraints (societal, historical, psychological, articulatory, memetic, etc.), assigning any form as a starting point can only be opportunistically arbitrary (see Deutscher 2005 for many examples) and assigning any form as a point of arrival is obviously dangerously relative.

The epistemological agenda of most linguists is to uncover regularities and laws in the observable diversity and variations of languages because they assume that there must be such logical abstract constraints. The assumption of rationality as the organizing principle of language might be the fatal flaw of modern linguistics as it restricts a priori the nature of the investigative tools. The claim to the unidirectionality of the grammaticalization path, as it is obstinately expressed by Haspelmath (2004) for instance, bears witness to such a determination to spell out linguistic laws. What is not clear is whether these linguistic laws are conceived as mere statistical regularities constrained by a range of unknown factors or whether they are considered to be compelling necessities that transcend the objects they govern. Do they depend on the vantage point of the observers, who can obviously apprehend languages only partially and through relatively short temporal windows, and daringly extrapolate from such random data? Or is it claimed that these laws belong to the very essence of language, assuming that there is such a grand ontology? Or are languages chaotic phenomena whose complexity is not amenable to any commonsensical logical frame, and which literate societies attempt to domesticate by consensually or authoritatively regulate their lexicon (through dictionaries) and use (through grammars). Social cohesion and control are indeed constantly threatened by the proliferation of changing forms and functions.

5. Iconicity and grammaticalization in utterance-based linguistics.

The critical approach that has been outlined above does not exclude the possibility of an evolutionary continuum between the morphology of utterances and pre-linguistic or extra-linguistics phenomena that are of particularly important social and cognitive relevance. Unless an arbitrary ontological distinction is posited a priori between language and the life-world, biological and environmental constraints are necessarily con-substantial with language forms and uses and account for their dynamic. But, based on the assumptions of linguistic iconicity, the very concept of grammaticalization might be an abusive generalization of a few examples that can be explained otherwise.

For instance, a basic grammatical feature such as negation can hardly be explained as the wearing out or reduction of referentially “concrete” lexical antecedents. It does not require either an elaborate logico-grammatical explanation *sui generis* if it is related to the signaling of prohibitive warning in primates among which dominant individuals utter a nasal stop toward other individuals’ incipient behaviors that are interpreted as potential or actual challenges to their prerogatives (access to food, females, space). Interestingly, these auditory signals can be produced while the mouth is full and engaged in eating. Nasal stops (M or N) with various vocalizations (ne, no, me, ma, etc) indicate in many languages not only that an object is not present, an action is not being performed, or a statement is not true, but also that a request is denied or that a process should be interrupted or simply not initiated at all. It is obviously easier to explain the former (an informative or redundant statement) as a cognitive expansion of the latter (originating in a pre-linguistic vocal warning) than the reverse. In human multimodal interactions, (English) “No!” can be used to stop incipient gestures or to reverse undesirable behaviors. Depending on the intonation, it can be construed as an affirmation of authority or as an acknowledgement of reluctant submission.

Normative grammars, taught or described through paradigmatic examples or diagrams, convey a misleading impression of symmetry between affirmation and negation as if the tools of negation were neutral operators (e.g., Jane sees the cat vs. Jane does not see the cat). Metalanguages of pedagogy and linguistics are biased by Aristotle’s logical elaborations which suggest such symmetry between assertions and their negation from the point of view of their truth-value. In principle, any assertion can be negated at the cost of creating a few paradoxes. However, the study of the pragmatics of negation shows that the frequency of distribution of affirmative and negative clauses in written English is far from being balanced. Statements of fact that carry functional information largely outnumber the negative forms that merely tend to correct false assumptions or expectations, (Givón 1979: ch. 3; 2002: 336-343). Denials and prohibitions are far more prominent in social interactive processes. In bickering, the interacting subjects tend to challenge each other by negating the other’s assertions. These latter uses are consistent with the cognitive value of the nasal stop in primate warning signals.

The case of the French negative *ne..pas* has been evoked above (section 1). It has developed from sentences such as:

(3) a- Il ne marche pas encore [he does not walk yet]

In which *pas* [step] is the smallest unit in the process of walking [marcher] and *ne* is the grammatical tool to signify negation. This form was parallel to other uses in which the smallest unit was congruent with the process such as in the following:

- b- Il ne boit [to drink] goutte [drop]
- c- Il ne mange [to eat] mie [crump]
- d- Il ne fait [to do or to make] rien [thing, from Latin *rem*]

And so on. Some have been preserved in archaic expressions, but *pas* and *rien* have become negative grammatical tools themselves in modern French as shown in the following examples:

- (4) a- Vous êtes déçu? – Pas du tout. [Are you disappointed?—Not at all.]
b- Que voyez-vous? – Rien. [What do you see?—Nothing]

Two observations are here in order. First, there has been no reduction; secondly, the “original” words have kept their form and meaning as shown in the following:²

- ²2. As Olga Fischer points out, this is true for ‘pas’ but not what happened in English, where there is both reduction and bleaching, cf. OE *ne* + finite verb (+*nawiht* ‘no wight’= creature) > ME *ne* + verb + *noht* > eModE *verb* + *not* > PDE *not* + verb, and where the original *nawiht* element has completely disappeared. Loss, layering and divergence of a variant are possible in a grammaticalization process.

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- (5) a- Elle n'a pas fait un pas. [She has not taken a single step.]
b- C'est un rien. [It is a small thing]

It is obvious that, linguistically and cognitively, this homonymy is not a source of ambiguity in the context of an utterance. Native speakers know what means what when and where. Note that there is no “reduction” in this case because formal French demands the presence of “ne” in front of the verb. The mere use of “pas” as negation is a popular alternative form that has captured, so to speak, the negative value of “ne” with which it had become collocated within a relatively stable pattern. This case calls attention to the prevalence of utterances and cognitive context upon the theoretical segmentations of the language chain into arbitrary units. Whereas it may be legitimate to heuristically discriminate components that are functional on various levels and assign them to categories in a particular written metalanguage, it is misleading to assume that such an artificial segmentation and categorization is relevant to the cognitive value of an utterance. The case of French *pas* shows that a cognitive operator such as negation can be potentially performed by any morpheme, even a morpheme totally alien to the iconic source of the root morpheme of negation. What prevails is the cognitive configuration of relations and values in the interactive, dialogic process of successive (or overlapping) utterances through which meaning is constructed rather than selected from pre-established dictionary definitions.

Cognitive structures and relations are adaptive strategies aimed at interpreting patterns, assessing situations and anticipating outcomes. These structures and relations, while being necessarily constrained (or bounded) by the environment in which they evolved, must be sufficiently general (or abstract) to fit a great variety of relevant contextual configurations. Utterances are always embedded in situations (real or imagined) and are part of them, and the whole lexicon is by necessity indexical or deictic since it is obviously finite but successfully operates in an open-ended flux of situations. The idea that words have set meanings and functions creates theoretical problems such as grammaticalization and metaphor because it is assumed that words have a definite sense, a kind of semantic substance, even if it is recognized that these meanings are time-dependent and have a history. But if words are understood as indices of abstract cognitive structures that actualize semantic properties determined by the co-textual and contextual situations of the utterances, there is no need to assume a process of “semantic bleaching” or “grammaticalization path” since the abstract values they are claimed thus to acquire through a loss of “concreteness” were already theirs to start with and are the ones which account for all their meanings over time and across the range of their uses. Of course, if a printed lexicon with standardized definitions (notoriously circular) and examples taken from a given historical period (the contemporary period for instance) is taken as reference and is construed as *positively* representing the target language, some problems will arise about the assignment of lexical functions and values. Some words will appear to be used to designate objects that are squarely beyond the scope of their standard dictionary definitions (metaphors), some will appear to be less “concrete” than others and will be labeled “grammatical tools”, hence raising the artificial issue of how it is possible to move from the former to the latter. But it is well known that whatever

degree of abstraction a word may appear to have acquire on the scale of grammaticalization, it is always possible to nominalize it again as poetic, philosophical and metalinguistic discourses amply demonstrate (e.g., the “hic and nunc”, the “Who’s who”, the “ça” in French psychoanalytical jargon, a “has been”, and so on).

This is not to deny that morphemes have discrete and contrastive values that are determined by consensual use within a given society at a certain time. But cognitive structures are not dependent on the lexicon, even if a lexicon that has been formally institutionalized, as it is the case for most modern literate languages, contributes to stabilize or even freeze some semantic constraints. As it was recently shown through cross cultural non verbal testing (Dehaene et al. 2006, Holden 2006), the human brain can use geometrical and topological concepts in the absence of a relevant lexicon, a point that Plato had made long time ago in the *Ménon*. The mastering of complex games like chess by people who are totally deprived of language abilities by birth demonstrate that notions such as move, turn taking, subjective perspective, intentionality, rule, possibility, prohibition, strategy, gain and loss, presence and absence, values, and the like without which playing chess would be inconceivable, do not require a lexicon to be operational. Such cognitive abilities have evolved long before language emerged among the adaptive competencies of the genus *Homo* and are not fundamentally dependent upon a linguistic system. So-called linguistic universals, mainly when it comes to grammar, seem to be far less absolute and constraining than it is usually claimed. As more and more languages are described (often as a last chance before they become extinct), outside the scope of literacy-based linguistics, it appears that there is much more flexibility than it could be anticipated in the ways in which cognition is mapped upon words to the point that the very notion of linguistic universals can be questioned (Evans 1999, Wuethrich 2000)..

Differences in approaches, such as the opposing views that have been contrasted in this paper, often depend on the temporal dimension of the target object that is construed by the inquiry. Theories always imply the selection of a time frame. Linguistic theories do not always make their time selection explicit, except through the coarse distinction between synchrony and diachrony which is notoriously fuzzy given the relativity of these heuristic concepts. The language object that is arbitrarily considered over a period of a few centuries through its surviving written texts, or a linguistic corpus that brings together literacy and oral data as much of contemporary linguistics does, is necessarily different from language considered from an evolutionary point of view that encompasses both its absence and its presence, and all the rest. What can be said, and make sense, about a corpus that is limited in time and scope, can only be very tentative. This is why the conclusions proposed by the theories of linguistic iconicity and grammaticalization raise more questions than they bring solutions.

6. Conclusion

The mosaic of epistemological paradigms that characterizes contemporary linguistics probably results from underestimating the complexity of language. Each linguistic school claims to have uncovered a general principle, sometimes expressed in the form of a law or a set of algorithms that account for most if not all the observables. Typically, each school excludes some of these observables as being outside of its object of study and

focuses on one range of problems which it claims both to be essential and to be solvable, that is, which it can abstractly describe in a consistent manner through its metalanguage. Each school provides an abundance of examples that have been selected or elicited for the purpose of demonstrating the legitimacy of its claim to universal validity. All linguistic schools feed, so to speak, on the leftovers of other schools. This socio-epistemological dynamic is patently obvious when functional structuralism, generative grammar, cognitive linguistics and linguistic iconicity theory are compared. Nevertheless all these paradigms have the same object, the languages of the world, which keep changing under their nose, and at times disappear, at various rates, impervious of the metalanguages that purport to conceptually control them but seem to be merely able to make *ex post facto* predictions.

Probably, the fatal flaw of all these theoretical approaches is the assumption of rationality or functionality of their object of study and the fact that, willy nilly, they perceive and observe this object through the literacy filter and within a restricted time frame punctuated by arbitrarily selected historical points of departure, often motivated by nationalistic or ideological obsessions. Perhaps, there are so many forces at play on so many levels in live languages that all heuristic reductions of their phenomenology are bound to lead astray the inquiry and to drastically limit its validity. The challenge of a science of language might be similar to the integrated understanding of the five forces that remains the grail of contemporary physicists.

From this perspective, it is possible to explain why the various linguistic paradigms are incompatible rather than complementary. They have created disciplinary cultures that are mutually exclusive, both from epistemological and sociological points of view. The agenda of this paper could not do more than merely invoke the possibility of stepping out of the linguistic conundrum and looking afresh at languages as objects which may be neither rational nor functional by essence and to consider them within the epistemological frame of evolutionary time rather than through the narrow temporal focus of historical time, that is literacy.

Notes