LUIT : Language, a Unified and Integrative Theory

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My purpose in this book is to propound an expanded version of LUIT (Kirtchuk 2007), an explicitly unified and integrative theory of language, following the one presented implicitly in my Ph.D. (Kirtchuk 1993) and henceforth (see bibliography). Keywords:

accusativity - actancy - Afroasiatic - Amerind – anaphore = Intra-Discursive Deixis - Aramaic - autopoiesis - Biology - biphonematism of the Semitic root - Communication (> categorisation / Conceptualization) - human cognition - complexity - context - Creologeny - Darwin - Deixis - Diachrony - Diaglottics - human dimension of language - dynamics: interlocution > language faculty, Discourse > Grammar, parole > langue, praxis > system - Epigeny - ergativity - Evolution - expressivitty - focalization - function - grammaticalization - Greenberg - Guarani - Hebrew - Hispanic - interactive nature of language - internal hierarchy of the utterance – interaction - iconicity - Indo-european - intonation - Lamarck - languaging - loanability scale - Maturana (& Varela) - multiple encoding - noun - non-person - onomatopoetics - Ontogeny - origin of language - paleontology - Phylogeny - Pilagá - Popper - Pragmatics - rhythm - proto-sapiens - Quechua - reduplication scalarity - segmentals, subsegmentals & cosegmentals - Semitics – sound-iconicity - Spanish - taboo - topicalization - typology - valency - verb - zero marking

Abbreviations

ABS - Absolutive, ACT - Actant, Ag-Agent, ALL - Allative, ASP - Aspect, AUX - Auxiliary, COM - Comitative, CONJ – Conjunction, DAT - Dative, DC – Deictic, DEF - definite, DIR – Directive, ERG - Ergative, F – Feminine, FUT - Future, GEN - Genitive, IDF – Indefinite, IMV - Imperative, IPF – Imperfect, INST - Instrumental, LOC - Locative, M - Masculine, NOP - Non-Person, PASS - Passive, PCP - Participle, PF - Perfect, LUIT - Plural, PRET - Preterite, REFL - Reflexive, REL - Relative, S – Self, SG - Singular, SUBJ – Subjunctive

Preamble

Language is comparable to an iceberg of which Grammar, with Syntax at its summit, is but the visible part. From a structural viewpoint, 'Morphology is yesterday's Syntax' (Givón 1976), but yesterday's Syntax is the previous day's Pragmatics and *Homo sapiens sapiens*

language is the descendant of hominid vocal-cum-gestural Communication (Kirtchuk 1993). In actual language both levels coexist, and in certain circumstances (highly emotional and/or spontaneous and/or urgent, &c.), Communicational needs override Grammar. In other words, not only *Parole* is the laboratory of *Langue* in Diachrony but in several respects it also prevails in Synchrony, and that is true also in Ontogeny, Phylogeny, Creologeny and borrowing. Structuralism mistook the iceberg for a mountain and attributed a real existence only to language's systemic apparent - and apparently separate - parts, while Generativism inverted perspectives altogether, presuming that the mountain's summit (grammatically speaking Syntax; psychologically speaking 'competence') generates and commands the 'lower' levels. As both approaches failed to recognize the iceberg, they inevitably collided with its submerged part.

Indeed, Linguistics - rather, linguists - cannot go on behaving as if Darwin (and, before him, Lamarck, whom he quotes), had never existed. Hadn't we known the first thing about Evolution, language would have suggested it. In a sense, the whole of this work is the demonstration of this. We do happen to know, however, Lamarck's and Darwin's work, and it is utterly unconceivable that two centuries after the former and one and a half century after the latter a serious scientist consider language as a purely structural device (Saussure and his disciples), and / or grammar as an organ (Chomsky and his followers). Not only the origin of language is of evolutionary stem, but the very way it functions at all levels is of a clear biological cut, if we only care to have a proper, non-biased look at linguistic facts. Further, if one refutes language's biological nature and origin, one must either propose an alternative - a coincidental origin? a divine origin? a magic origin? an extra-terrestrial origin? - or decree that question unsolvable by reason and give no alternative at all. In all cases, one declares the failure of reason. I do not admit that. A scientist worthy of that name will never say *ignorabimus*, and as far as I am concerned, we are not even entitled to say *ignoramus* anymore. All we have to do is acknowledge the little yet numerous and stubborn data which are out there awaiting proper recognition and integration into serious analysis.

The first task linguistics is facing now is recognizing its own intrinsic unity, indeed, which follows from the intrinsic unity of language, due not to an imaginary universal Grammar but to the fact that in language, all realms, stages and levels - Phonology, Morphology, Syntax, Lexicon, Semantics, Pragmatics, Diaglottics (borrowing), language contact, Creologeny, second language Acquisition, Ontogeny, Phylogeny, &c. - are solidary and must therefore be investigated as such: as in any other complex phenomenon, language as a whole is greater than the sum of its components, separate only on methodological grounds. Linguistic analysis must reflect the unity of language and not impose on it a division into domains which have little or no connection with each other, blurring what language is and the way it works. Syntax is certainly not autonomous, but neither are Phonology, Morphology or Lexicon; language's first aim is Communication, *i.e.* transmitting pragmatic and conceptual content, and the means to do it is form, which in itself conveys and to a tangible extent reflects meaning, since the linguistic sign is not completely *arbitraire* but to some extent iconic; oppositions in language are more often than not scalar and not binary, and language is not synchronic or diachronic but dynamic. It is in this sense that LUIT is unified.

Doing scientific research can be likened to assembling a jigsaw puzzle, with several differences : (1) the pieces of the scientific puzzle are not pre-established: it is up to the researcher to determine which piece of evidence belongs to it and under which form; (2) the researcher does not have a model of the puzzle sought for; (3) the researcher does not even know the number and nature of dimensions of the puzzle, namely the domains which have to be properly assembled: as far as language is concerned, Pragmatics, Grammar, rhythm, Semantics, but also Biology and Psychology, among others, are several such dimensions; (4)

this jigsaw puzzle itself is but a piece among others in a jigsaw puzzle of a higher order, which is itself a piece in a jigsaw puzzle of a higher order and so on and so forth. *Exempli gratia*, language itself is but a piece of the puzzle of Communication, in which devices both more ancient and more central than verbal language - and certainly more universal than the structure of any given language - continue to play a preponderant role. Communication itself as a permanent activity, however, is a defining property of our species, from which other defining properties derive, including language and its own derivatives conscience, reason and thought; as such, language is a piece in the puzzle of *Homo sapiens sapiens*, who is a piece in the puzzle of Life, &c. Assembling them is the painstaking and sometimes painful pleasure called science. When assembling a puzzle, one has sometimes to leave one part unfinished, then work on another part and leave it unfinished as well, and so on; only then, once the context has changed substantially, should one go back to the first part. Likewise, crucial issues in the linguistic puzzle cannot be elucidated if only linguistic evidence is considered. Only if we take in account other factors as well will the manifold reality of language reveal some of its best-kept secrets. Language is but an expression, albeit probably the most complex one, of human properties which are not linguistic in themselves. Accordingly, it must be explored within a larger framework that comprises other sciences of Life too. It is not mathematics that language and linguistics are related to, but Biology. In other words, the jigsaw puzzle of higher order superior to linguistics is Biology, and the natural phenomenon superior to language is Communication, and above it, Life as displayed in our species.

True, linguistics has always applied to biological metaphors (language *families, branches, trees*, &c.)[1]. Time has come to go further and deeper: language is linked to Biology not metaphorically but fundamentally, in its very essence. It is in this sense that LUIT is integrative: it integrates language into a broader framework. One corollary is that the concept 'natural language' is a pleonasm. Another corollary is that 'sign language' as well as other types of so-called 'languages', including animal 'languages'; computer 'languages'; artificial 'languages' (!) such as Esperanto; &c. are not languages save in a metaphorical sense. Sign 'language' is undoubtedly a great tool of Communication for people with speaking and/or hearing impairments, but it still is an adaptation, of necessity partial and imperfect, of both the language faculty and a particular language, *in the first and only non-metaphorical sense of those terms*, artificially deviced for people who cannot exert this faculty and communicate in that language due to their abnormal condition: such a sign system is neither a faculty nor a language in itself. To give but an example, pretending that 'sign language' is endowed with Phonology is not to understand what Phonology is, what the language faculty is and what particular languages are. The larynnx of a normal *Homo sapiens sapiens* adult is positioned lower than in the other mammals' but in the HSS infant who has not yet enacted the language faculty it is positioned like in the other mamals; on the other hand, a human adult hand, an ape's hand and a human infant hand present the same anatomy. This is of the highest importance in this respect: phonetically articulated language influences our very anatomy, whilst 'signed' language doesn't have any such influence.

[1] Trubetzkoy said as early as 1932 (I translate from the French edition): 'There are some facts which deserve reflection. Firstly, it is clear that we must pay attention to the statistic part of Phonology … And secondly, one has to get familiar with Biology. Causal explanation is not quite convincing and not bound to be proven. Yet an analogy between the biological laws of Evolution and the laws governing the Evolution of sign systems is possible' (*1932:* 296). Much like Karl Bühler, to whom he was attached by a fructuous scientific exchange all along the 1930s as well as by mutual admiration, the author of *Grundzüge der Phonologie* refuses an explicit and direct link between language and Biology, language and Evolution. Yet, he too acknowledges, *nolens volens*, at least an analogy. Given on one hand the intellectual span of both characters and on the other hand their spatio-temporal *Zeitgeist* (Structuralism, [Logical] Positivism, the *Wiener Kreis*), even a term as timid as 'analogy' deserves to be quoted in this context.

If one dismisses such facts as irrelevant to linguistics research, results are bound to be biased: it is as if a fisherman whose net only catches fish at least ten inches long should conclude that all fish in the sea areat least ten inches long, while it is the holes in his net which are thus dimensioned. Would a detective worth of thet name ask his assistant to cleanse the crime scene and give leave to the servants before he can properly begin his enquiry? That, however, is precisely what structural linguistics, and all the more so its hypertrophied version, generative linguistics, do when they ignore on purpose all facts which are not strictly grammatical or formal.
It is the task of linguistics to disclose the unity underlying the different aspects of language and the relationships among them. Grammar, *i.e.* the structure of the linguistic system, is the specific domain of linguistics – Biology, Psychology, Philosophy won't deal with that specific component of language. It is however the task of linguistics as well to reveal the links between that particular aspect of language with its other aspects. In other words, linguistics is at the same time specific and general, it deals with structural components but at the same time it should deal with language as a whole and as a part of a larger phenomenon. Indeed with language *qua* puzzle, a key part of another puzzle.
In the framework of LUIT, several notions are reconsidered and other are presented which allow attaining a better comprehension of language, its expressions, the factors that influence it and the species that developed it. Thus, LUIT hopefully confirms Kuhn's thesis concerning the structure of scientific revolutions: significative progress in science does not consist of cumulative, steady and linear work - undoubtedly indispensable - but of successive revolutions by which an existing paradigm ends up being replaced by a radically different one.

Pauper Popper

A caveat should be made here in order to prevent previsible critics. When Karl Popper speaks about 'science', 'scientific theories' and the like, he speaks about physics. And it cannot be otherwise: his long existence was concomitant with the 20th century, which began with the blossoming of physics in the *annus mirabilis* 1905, when Einstein published his revolutionary papers; continued with the discovery of Radium and radio-activity by Marie Curie, and went on with the Big-Bang theory followed by that of Strings and Super-Strings. The century that Popper crossed practically from beginning to end has been physics'. Here, indeed, one observation can do away with a whole theory: a single apple that, once plucked off the tree, would remain in the air or rise upwards instead of falling down would do away with the law of gravity. Indeed, the business of physics (be it Newtonian, Einstenian, quantum or otherwise) is disclosing the general laws that govern the univers and suffer no exception. Yet even in physics and mathematics, Heisenberg's principle of uncertainty and Gödel's theorem of incompleteness respectively suggest that things aren't so simple.
In Biology things are definitely not so simple; if need be, let me remind that language is proper to a biological being. An apple with no grains or an appleyard giving twice as many apples as a normal one or no harvest at all would prove nothing whatsoever as far as the nature of the apple is concerned. In the realm of the living, we are not dealing with laws but with tendencies, orientations and mutations. One observes above all a constant interaction between the entity and its environment – its context – by which the first constantly adapts to the second, while modifying it at the same time; this is Epigeny. It is the context which judges of the adequation of the entity to pursue its career as a living phenomenon. For the observer, is part of the context any observed entity including him- or herself. There is indeed not only

Ontogeny and Phylogeny, but also Epigeny. Without Epigeny, language as a faculty would not have developed, and languages wouldn't change. Popper's considerations, which many of us have adhered to with enthousiasm while we still were romantic youngsters in quest of absolute, do not apply to language *qua* biological phenomenon, and not only because we have become more pragmatic, experimented and happy with relative but tangible results, not absolute and chimerical ones. Popper's main criterion of scientificity, namely the possibility to falsify a theory on the grounds of observation, led him to proclaim Darwinism 'a metaphysical theory' (Popper 1976). At the time he was 74 years old: it is therefore by no means a juvenile error but the conclusion of a mature philosopher. Alas, rather than dwarfing Darwinism, it proves Popperism's pauperity as far as the phenomenon known as *Life* and its expressions are concerned. Popper's approach is inadequate for biological reality. He had ruled out Psychology as non-scientific either. He did not grasp the essential difference between Life and any other phenomenon. LUIT, decidedly conceived within a pragmatic, biological and psychological framework, is by no means popperian.

Generative Grammar: Decline and Fall of the Structuralist Empire

"Saussure est avant tout et toujours l'homme des fondements. Il arrive d'instinct aux caractéristiques primaires gouvernant la diversité des données empiriques". These are Benveniste's words, written in 1963, half a century after his master master's death. Indeed, the great achievement of the Master from Geneva, namely the foundation of linguistics as a scientific discipline with a defined object of study, a well-established theoretical framework and a sound methodology, is both seminal and self-contained. This theoretical work is consecutive to a thorough experience of empiric work in comparative Indo-European linguistics. His work led *to* and consisted *in* a newer and richer analysis of existent data, and to a reconstruction of linguistic facts for which no empiric evidence was available as yet. Above all, it led to a study of language "en elle-même et pour elle-même", as stated in the *Cours*. Naturally, in this context I am less interested in Ferdinand de Saussure the great mind than in Saussure's *Vulgata* (1913) as transmitted by Bally & Sèchehaye and read by Riedlinger. It is this stage of Saussurean thought, not the *mss.* bought by Harvard University in the late sixties (Parret 1993-4) nor the *mss.* found in Geneva in 1996 (Bouquet and Engler 2002), that marked several generations of linguists. It is Bally & Sechehaye's version of the CLG that eventually yielded Structuralism and the great development of linguistics (and later of other sciences as well) that it induced, generating also, at the same time, what may be considered as the conceptual and methodological pitfalls of this important intellectual movement. Saussure's dictum *'Rien n'entre dans la langue sans avoir été essayé dans la parole'* (CLG: 231), reformulated by Benveniste (see below) hasn't been granted the importance it should have, or the history of our science would have been different.

"Generate" is indeed the second key-word of 20th century linguistics, since it is the main concept of a current born in the United States in the late nineteen fifties which acquired an undeniable importance — justified or not — that lasted for the next fifty years or so. The Generative concept of language is that of a formal system governed by self-contained rules, very much like a computer sign system artificially and mathematically deviced, that may and indeed should be analyzed with mathematical methods and which is characterized by the ability to generate all the well-formed sentences in a language and only them. Curiously enough, Chomsky's (1957 and onwards) main references are the founding fathers of French rationalism: on one hand Descartes ([1637] 1957), on the other hand Arnauld and Lancelot, the Jansenist authors of *La Grammaire de Port Royal* ([1660] 1969). It is not surprising, therefore, that he devote more attention to Grammar, apparently easy to rationalize and formalize, than to Semantics or even vocabulary, that he reduce Grammar to Phonology and

Syntax, finally that he reduce language to Grammar. Indeed, his basic postulate is that at a so-called deep-level Grammar is universal, morphological properties being assigned to Syntax or excluded altogether from analysis as contingent facts of the surface level. Here too, I refer to Standard Generative theory and not to the Minimalist Program, for it is the former not the latter that haunted many a gifted mind in the second half of the 20th century. To quote DeLancey (Syntax Course 19XX) 'It is hard to hit a moving target'. Anyhow, at some deep level, so to say, both versions share the same postulates.

Many are the differences between Structuralism and Generativism. As for the first, this School has always paid great attention to factual evidence, namely to linguistic data. To mention only several of its great figures the genius of Meillet ([1921-1937] 1965), Sapir (1921), Bloomfield (1933), Hjelmslev ([1961] 1971), Benveniste (1965), Martinet (1985), Coseriu (1988) and others produced great theoretical advances without ever losing contact with the linguistic data. Generativism, on the other hand, has always been marked by what I dare not call an aversion for linguistic facts. In its very essence, this approach regards linguistics as the ideal study of an ideal reality, which cannot and indeed *should* not be preoccupied with factual evidence, which is but a pale reflection of the ideal rules. It is the well-known distinction between *competence* and *performance* (of which, to the opposite of the generative dogma, the latter generates the former, see below). Another point that clearly separates the two Schools is that the first one is founded upon the notion of *différence*: for Saussure, "la valeur est une entité négative" since in language everything is defined in opposition to another. Things are not defined by what they are, but by what they are not. This basic importance attributed to the concept of *difference* and also, by dialectic opposition, to that of identity, is the watermark of Structuralism. Generativism's basic postulate, on the other hand, is Uniformity: differences only occur at a surface level, whilst at a so-called deep level, all Grammars are one.

Those two distinct approaches produced two accordingly different bodies of research. Structuralism enhanced an increasingly subtler analysis of familiar languages and stimulated interest in less familiar and accordingly more interesting ones, thus exposing an ever-growing quantity of descriptive data, whilst Generativism tempted to arrive to an ever ascending level of abstraction and to complexify rules as much as necessary in order to deal with linguistic evidence, sometimes provoking contradictions and internal as well as external incoherence. Eventually, these contradictory vectors resulted in a decrease of its explicative power as well as of the scope of phenomena treated.

Yet in spite of these differences, which should not be underestimated, both approaches seem to have more in common that one can grasp at a first gaze.

Traditional Structuralism studies the system. True, Benveniste mentions the need for a "linguistique de la parole" ou "du discours": *'Nihil est in lingua quod non prius fuerit in oratione'* (1964: 131) - which brings to mind Leibniz' words *'Plebs autem linguas facit, eamque et eruditi sequuntur'* - but his work is devoted mostly to *la langue*. Moreover, for Structuralism Diachrony is but a succession of synchronic states. In other words, this School considers the system as inherently static rather than dynamic. This is not contradicted by the great work of reconstruction accomplished in this framework, first and foremost by Saussure himself in his "Mémoire sur les voyelles primitives en Indo-Européen" (Leipzig 1879), as such a diachronic protocol is based *upon* and tends *towards* a conception of language as constituted of successive stages. Programmatically and practically, Structuralism is more interested in the system than in the human subject, be it as an individual, or as a biological being, as a member of a species or as this species itself.

This leads us to one of the main points that those two Schools have in common: an affinity with quasi-mathematical thinking, which departs from abstraction or wishes to attain it. To a certain extent this is the objective of all science, but one must not forget that linguistic phenomena have on one pole a human subject (evacuated from the debate in both Schools, as

we have just seen) and on the other pole referential reality; mocked as less than perfect by generativism and ignored as irrelevant by structuralism. Saussure's CLG has practically no reference to *reference* and when it does it is mostly to say that the same animal is called *boeuf* or *Ochs* (so what does the real animal matter) while generativism takes Syntax to be autonomous and its subject is 'the ideal (?) speaker'.

The central place of binary oppositions in structuralist thought appears in the series of dichotomies we are all familiar with: *langue-parole, synchronie-diachronie, syntagme-paradigme*. Now though apparently they are equal members of those oppositions, there is a clear primacy of the first over the second. In generative theory, when a twofold opposition appears, its terms are not in a relation of equality to begin with, but in a hierarchic relationship, the second member being a mere reflection, by definition imperfect, of the first: competence would be superior and prior to performance, as would deep level to surface level. Both Schools work with binary - not scalar - oppositions, in which *tertium non datur* and which are of clear hierarchic cut. Now a binary approach, even if it is anchored in an inductive method, let alone in a deductive method, is inadequate for cases that are not clear-cut, while a scalar approach can not only deal with them but also quantify their place on the continuum. In this sense, the scalar approach is not only more adequate than the binary one but also more precise for linguistic analysis.

To take an example, let us think about the Subject function in a language like Contemporary Hebrew and beyond. *Prototypically*, at the syntactic level it determines the verbal agreement, if it has an independent expression it is placed before the predicate, in addition to the affix, and is prototypically determined; at the pragmatic level it is given information, hence thematic, and at the semantic level it is animate. Now what of a subject that is inanimate, placed in second position, indeterminate and which implies no concord? It is still a subject, but certainly not a prototypical one hence its topicality too is affected. Or take the prototypical *second actant* ('argument', Tesnière 1959): syntactically it follows the verb but is not linked to it by concord; it can be subject of the verb in the passive voice and can be pronominalized; semantically it is inanimate; pragmatically it is unknown hence syntactically undetermined and since it conveys new information it is rhematic. Thus, we can understand why in Arabic the /ḥal/ is marked as a second actant, namely as an ad-verbal adjunct, very much like the so-called *accusativus graecus* in Indo-European but also the ad-verbal /-ta/ in Quechua (Kirtchuk 1987b) &c. They have some properties of a second actant, but they are far from being a prototypical one since they are determined but cannot be pronominalized nor become the subject of the verb in the passive voice, &c. The scalar approach allows us not only to characterize but also to quantify differences and similarities between elements which otherwise, and especially in a binary framework, can simply not be treated at all.

As for generative Grammar, let us ask some questions that inevitably arise when dealing with it. The opposition between so-called 'deep' vs. 'surface' is one of its cornerstones and it is connoted as such. What is the *locus* in which such a distinction is operational? Is it speakers' and hearers' minds? Is it the Grammar as such, outside of speakers' and hearers' minds? Is it the speech act? What is, *e.g.* 'surface Morphology'? Is there a 'deep Morphology'? If that expression is aimed to express 'deep syntactic / semantic / pragmatic functions' then it must be reformulated, for such functions may be carried by various sorts of linguistic means, not necessarily morphological, even within a single language. Not to mention that when diachronic changes are at stake, so-called 'deep' and 'surface' may refer simply to a diachronically previous and a synchronically posterior stage respectively, and when register variation is at stake, they may refer to written vs. oral register. Givón's dictum *Today's Morphology is yesterday's Syntax* tells the truth (though not the whole truth). What is 'deep' then in Morphology, besides the fact that it results from the freezing of pragmatic then syntactic relationships through phonological coalescence, and that to that extent Morphology

is of the utmost importance? Grammar as a whole is a means and not an end, an output and not an input; there is hardly anything deep about Grammar at all. I shall go further with the above mentioned dictum: ***Yesterday's Syntax is the previous day's Pragmatics*** (Kirtchuk 1993 sqq.) and Grammar is but the ever crystallizing part of the iceberg called language (Kirtchuk 2007). Hopper's and Givón's views on Grammar are nor contradictory but complementary: ***Grammar is the device by which we reduce the entropy characteristic of Pragmatics.*** It is a perpetual process (Hopper) of systematization aimed at a fast and reliable elaboration of content (Givón), which inevitably influences that content: noun classes, including grammatical gender, are not intrinsically part and parcel of some external reality conveyed by the gramatically elaborated message. They are, on the contrary, built-in the grammatical structure of the particular language they are expressed in, which incidentally shows that grammar is by no means universal. Hungarian has no noun-class whatsoever, while Bantu languages can have a score, and as for noun classifiers, their number can attain a hundred in languages like Thai.

In amputating linguistics both from the human subject and from the referential world, Structuralism and its apotheosis, Generativism, gave up interest in some of the most puzzling questions that even a superficial look at any given language arises, and as a consequence they renounced to the knowledge that such an analysis is bound to yield. Both Schools ask *how*: Structuralism has given inductive answers and pretty good ones, for that matter, while Generativism's answers are essentially deductive and do not correspond to the object under analysis. Neither asks *why*, however, which is the oldest and deepest question of them all. By *Why* I mean among others the correlations between the structure of language and that of speakers with their personal and so to say *animal* properties, for example the sensory and not only intellectual encoding and decoding of information; the direct, sensory perception of space vs. the indirect, intellectual construction of time, &c. If we do contemplate these phenomena, we are bound to adopt, at least to some extent, an evolutionary approach, which may shed new light even on the taboo question of the origin of language (Kirtchuk 1994). Symptomatically and reasonably, given the state-of-the-art at the end of the 19th century, the *Société de Linguistique de Paris* had explicitly banished Communications on that question; this clause was not abolished until I exposed my views on the matter in several review-articles in the late nineteen eighties (Kirtchuk XXX) and in a lecture at Professor Bernard Pottier's seminary in the Sorbonne, Paris, in 1987[2] and then in my Ph.D. dissertation (Kirtchuk 1993). A much older phenomenon than the emergence of the language faculty, the radiation produced by the Big Bang, has been detected 15 billion years after it took place. The emergence of language is considerably more recent, and there is no reason to suppose that it has left no reflex on language at its present stage, or that this reflex is undetectable by definition. I can suggest such a reflex and, in any case, within my approach that issue is not taboo anymore. Indeed, since the turn of the nineteen-nineties, when the present writer had to vanquish his peers' hostility on both sides of the Atlantic in order to even expose his views, let alone defend them, the Origin of Language (OL) has become a fashionable issue. Alas! As it is often the case with fashion, not all of those who adopt and diffuse it really understand why. Science too has its "fashionistas" on one hand and its ‘’fashion victims’’ on the other.

[2] A symposium held that same year at Stanford on *Understanding Origins*: *Contemporary Views on the Origin of Life, Mind and Society* (1992, Varela F. & J.P. Dupuy eds., Kluwer Academic Publishers, Dordrecht, Boston, London) ignored the origin of language; likewise, the *Société de Linguistique de Paris* had explicitly banished Communications on that question until the present writer exposed his views on the matter in several reviews in the late nineteen eighties, then in his Ph.D. dissertation (1993). I do not know of any evolutionary *linguistic* theory (*viz.* a theory based on linguistic data and applying linguistic methods) on the origin of language prior to mine. Bühler ([1934] 1982) explicitly rejects any evolutionary implication of his own theory (Kirtchuk i.p.).

The Dynamics of language

Language dynamics exerts in many domains including Synchrony and Diachrony but is not restricted to them. Other such domains are Phylogeny - the Evolution of the language faculty within the species; Ontogeny - the Acquisition of language by the *in-fans*; Epigeny - the emergence, functioning and change of language out of interaction with the medium, consisting primarily of fellow beings, but not exclusively: if Argentine Spanish has about a hundred words to describe a horses skin colour, while Eskimo has a score of words to designate snow, It Is becausee of the Indispensable adaptation to the context, I.e. epigeny ; Creologeny - the merger of two or more languages into a new one out of their pragmatic use; Diaglottics - borrowing of terms or structures by one language from another.
Phylogeny, Ontogeny, Epigeny, Creologeny, Diaglottics, Synchrony and Diachrony are all relevant and necessary criteria of linguistic analysis.

The Pragmatic nature of language

Linguistics has to spouse the pragmatic turn (Quine 1951, Rorty 1982) that biology had already taken with Lamarck (1806) revised by Darwin (1859, 1872). Pragmatics is not only at the output level of language, but at the input level as well, and this holds true of all biological phenomena. No doubt evolution is but a hypothesis, the worst one to the exception of all the others.
Indeed, Pragmatics is the alpha and the omega of language emergence, function and structure, as it is indeed of all biological phenomena including life itself, by autopoiesis (Maturana 1973 sqq., Maturana & Varela 1978 sqq.) or auto-organization (Atlan 1972 sqq.). The central concept of Pragmatics is *context.* Context is what Pragmatics is about. Pragmatics as understood here was inaugurated by the Ecclesiastes (3,1) : 'There is a time and a propitious moment for everything on earth', reformulated by Ortega y Gasset some twenty-two centuries later as 'Yo soy yo y mi circunstancia'. In other words, time and the context it defines are part and parcel of any situation. A tentative definition of *context* would be: the set of static positions and dynamical processes and the relationships between them at any given moment, where an event takes place, which an observer choses to analyze. *Context* is a dynamical phenomenon, which changes perpetually, and so do the relationships between its components. These relationships vary if only because the components themselves vary as a result of the temporal flux. Evolution is but a perpetual adaptation to context, by diverse means, more or less efficient. It is not a binary opposition, but a scalar one: the walrus and *Homo sapiens sapiens* are both apt to survive as indeed they do, and yet there is a qualitative difference between them inasmuch as it is the latter who investigates the former and not the other way round. What matters is that language is no more than an excellent means of adapting to context hence it is pragmatic in its very essence. A tempting hypothesis is that, just as language has probably emerged as an ineluctable result of continuous collaborative between conspecifics, mind probably emerged out of language once it attained its symbolic capacity.
Just as there is a *Pragmatics* consisting in the use of constituted language (which is the traditional meaning of the term), there is a Pragmatics before the emergence of language, which ends up creating the language faculty itself. We could call them *Pragmatics a priori* and *Pragmatics a posteriori.*
Grammar is the part of language ever systematizing out of interaction in pragmatic use.
Grammar is therefore a mechanism of organization, in other words of reduction of the entropy

characteristic of Pragmatics.
Grammatical rules are therefore pragmatic since they consist in the application of allo-forms depending on linguistic context, namely co-text, *cf.* among others morpho-syntactic agreement as well as multiple encoding in general (see also Kirtchuk 2007).
Semantics is pragmatic too, since the meaning conveyed and interpreted is context dependent and results from a negotiation between the speech-act partners : even as simple a word as *chair* does not convey the same meaning when the context is 'furniture' and when it is 'academic teaching'.
It follows that, just as anaphor is but intra-discursive Deixis, Grammar as a whole is but intra-discursive Pragmatics.
Syntax is neither autonomous nor universal.
Grammar as a whole is neither autonomous nor universal.
Pragmatics is, to a point, both autonomous *and* universal.
Language is not reducible to Grammar.
Language is pragmato-centric not grammato-centric the way our astronomical system is heliocentric not geocentric.
All linguistic utterances can be deprived of Grammar but not of Pragmatics.
Pragmatic functions may or may not freeze into syntactic functions. Syntactic functions, however, do not freeze into pragmatic functions. Therefore the δοξα according to which *focalization* and *topicalization* are dislocations or detachments is false (Kirtchuk 2005). The following is a comparative table of some keywords which distinguish the Pragmatic-Deictic mode from the Grammatico-Semantic one. Naturally, oppositions are scalar, and that is how the table must be understood.

Pragmatic-Deictic mode	**Grammatico-Semantic mode**
(Theme-)Rheme	Subject-Predicate
Assymetry: R essential, T non essential	Symmetry: S-P = Equivalent poles
Scalar Oppositons	Binary Oppositions
Hierarchy	Structure
Utterance	Sentence
Non-segmentals	Segmentals
Rhythm	Syntax
Discourse	Grammar
Stable through dynamic levels *	Unstable through dynamic levels **
Motivated	Arbitrary
Imposed	Conventional
Iconic	Symbolic
Emotional	Rational
Biology	Mathematics
Explanations	Descriptions
Why	How
Tendencies	Rules
Induction / Abduction	Deduction
‘Hardware’	‘Software’
Ontogeny	Adult Language
Creologeny	Systematized Language
Phylogeny	Present-day Language
Oral	Written
Parole	Langue
Performance	Competence

Spontaneous	Planned
Subjective	'Objective'
Communication	Categorization
Interaction	Thought
Context-dependent	Context-free
Concrete	Abstract
1st & 2nd Persons (+ non-person)	Non-Person (+ 1st p.)
Deixis	Conceptualization
Deictics	Nouns
Gestures	Lexemes
(Linguistic cum) Gestural	Solely linguistic
Explanation	Description
Lamarck, Darwin, Bühler, Bolinger, Greenberg, Givón, Ochs, Kimura Lieberman, Maturana, Kirtchuk	Lambrecht, Saussure, Daneš, Hagège	Jakobson, Chomsky

* Onto-, Phylo- and Creologeny, Diachrony, Synchrony, Typology;

Terms convey meaning. In this context, the term 'information structure' is inadequate. First, we do not transmit pre-existent information but select it and to an extent, create it. It is not objective information but a *subjective* choice of possibilities which are more or less in adequacy with some external reality. It is all the more so as the mode of Communication we are dealing with is pragmatic-deictic, hence highly subjective, spontaneous, affective and oral as compared with the grammatical-semantic one. In the former we deal not with *sentences* but with *utterances*, which consist in the communicative function *rheme* (the theme being often implicit), *not* in the syntactic components subject-predicate. We are in a pre-grammatical mode in which *utterances*, not sentences, have an *internal hierarchy*, not a structure. Secondly, this mode of Communication is highly inter-subjective and context-dependant: the relative importance of components and even their very meanings are negotiated between the dialogic parts interlocution and neither in this sense we are dealing with some objective, context-free information. Finally, the term *structure*, in linguistic parlance, is related to binary oppositions whose first member is more important than the second, such as *arbitrary vs. motivated; syntagmatic vs. paradigmatic; langue vs. parole;, synchrony vs. diachrony; competence vs. performance; description vs. explanation*. The scientific paradigm the term 'structure' relates considers language as a formal device of mathematical inspiration. Utterance Internal Hierarchy oppositions on the other hand, henceforth UIH, are scalar, and the core concepts are *function, dynamics, Evolution, interaction, medium, context, tendencies,* of biological inspiration. If the term structure is of any relevance here, it relates to that of the phonation organs and the language dedicated areas in the brain, yet even in that respect *structure* is second to *function*. To quote Lamarck (1806) 'les usages créent les formes', namely *it is usage that creates form*, or, in more modern terms, it is function that creates the organ. Darwin's version of Evolution, not as different from that of *Monsieur Lamarck*, whom Darwin quotes, as it is sometimes presented, only confirmed that in the realm of the living, dynamics precede structure: when a new function emerges it ends up being assumed either by a dedicated organ developed as a result of this dynamics, or by an existing organ originally specialized in an older function which ends up developing a new version dedicated to the new function. Language is no exception. All of the biological equipment necessary to process it at the articulatory and neurological levels originates in organs previously devoted to less specific functions: breath and deglutition as far as the phonatory organs are concerned, manipulation of objects as far as the present day Broca's and Wernicke's areas are concerned (Hewes 1973, Kimura 1979).

These views, which ultimately connect to the biological nature of language and its speakers, are opposed to the δόξα both in General Linguistics (Lambrecht, Blanche-Benveniste, &c.) and in Hebrew linguistics (Blau 1958, Ornan 1969, Tzadka 1980, Azar 1983, Bar 2003). In General linguistics, a view close to mine is found in Séchehaye (1926) and Ochs (1979). In Hebrew and Semitic linguistics it is found in Bravmann (1944, 1953) according to whom the theme-first utterances parallel interrogative ones, so that the theme is equivalent to a question and the rheme to the answer. In conditionals, the protasis is thematic and the apodosis rhematic (Haiman 1978). Not only do topic-first utterances exist in Hebrew, to take just one example, in all of its diachronic layers and synchronic registers, but they are all the more present inasmuch as the dialogic, emotive, communicative, oral and context-dependent factors gain in importance at the expense of rational, conceptual, written and context-free parameters. These statements are valid, presumably, for language as such through all of its particular manifestations, i.e. languages. Moreover both linguistic and extra-linguistic evidence, taking in account pragmatic, prosodic, morpho-syntactic, typological and psychological factors, shows that the topic-first utterances do not necessarily result from the dislocation of grammatical sentences previously constructed. Indeed terms such as *dislocation, left* and *right* are inadequate inasmuch as they imply the precedence of Syntax over Pragmatics and of the

graphic representation of language over its real nature, which is oral, multidimensional and cognitive. Rather than being fixed in graphic space it *happens* in time, just like music: no one would say that in a musical work, the theme is on the left and the variations on the right. Language is not dynamic only as a phenomenon, even its actual manifestations *function* dynamically and each one of them reflects the properties of language as a whole. Hence, language is a fractal. Terms such as '*Grammar* or *structure* of information' are misleading inasmuch as they imply a *construction*, while the *raison d'être* of the theme-first utterances is reflecting a natural iconic pragmatic order independent of the constraints imposed by the structure of the language in which those utterances are produced. Theme-first and rheme-only utterances are often context-dependent and spontaneous or urgent respectively and as such they require and allow for a relatively little encoding and decoding effort, while grammatically well-formed sentences must conform to rules, especially of word-order and agreement. There is indeed an affinity between all the dynamic parameters just mentioned, which is too consistent to be imputed to coincidence alone. Quite the opposite: as they are founded on pragmatic and communicative factors, *theme-first* or *rheme-only* utterances precede their syntactically so-called well-formed, *i.e*. grammatical vis-à-vis. It is not with structure that we're dealing but with its absence, and not with the elaborate order characteristic of Grammar but with the entropy characteristic of Pragmatics; in other words with pre-grammatical utterances, in which the central part is played by iconic, archaic and strongly biologically motivated mechanisms such as rhythm and position, not by late-acquired and late-evolved, relatively non-motivated and symbolic mechanisms such as morphological marking and syntactic order. Thus, if an utterance begins with the rheme, it is due to the urgency needed to treat it in real context and real time; in such cases, the rheme has the prominent position in the intonative contour while the theme is implicit or mentioned after the rheme in a lower pitch, which iconically reflects its lesser importance.

We shall now briefly see (a) the correlations between rhythm and pragmatic constituent position as far as UIH is concerned, and the iconic link between them, rhythm referring to two different parameters which are rhythm and melody, and pragmatic position being quite distinct from syntactic word order, (b) that those factors override and determine grammatical forms and roles, not the other way round; (c) that the relative importance attributed to each part of the utterance, as well as its communicative and expressive values, depend first and foremost on the speakers intention, idiosyncrasy, state of mind, context, relative urgency and the like, and that Grammar is not the starting point of speech, in other words that the Grammar-first hypothesis is dead wrong and that there is no dislocation, and if there is one, it is Grammar that results from the codification of dislocations, moreover that grammatical diachronically successive dislocations change, but that pragmatic component position does not. UIH is what it is about, and not IS since the Communication mode we are dealing with is pragmatic-deictic, not grammatical-semantic. Let us look at some examples[3] (intonative contours are noted by upward or downward arrows and pauses by brackets; bold – interlocutive devices, italics - colloquial devices).

Contemporary Hebrew

1. *ħ*ayyim	štauber	*ha-ze* ⇑]	*ħabal*	še-lo*ʔ*	pagaš-ta	*ʔ*ot-o ⇓]]	
H.	S.	def-dc	pity	rel-no	meet,pf-2sg.m	acc-np.m	

'That Haim Stauber, it's a pity you didn't meet him' (Grossman 44)

2. ha-yald-a	*haky*	*yapa*	b-a-gan ⇑]	*yeš*	*l-ah*

[3] I am indebted to Tali Bar (1997) for the Hebrew examples, many of which are quoted here. Our analyses, however, are diametrically opposed.

def-child-f spl beautiful in-def-garden there is to-np.f

ʕeyn-ayim *haki* *yap-ot* b-a-gan ⇓]]
eye-du spl beaut.-pl in-def-garden
'The most beautiful girl in the kindergarten, she has the most beautiful eyes in the kindergarten' (Y. Geffen)

3. *ha-ben* *šel-ka* *boʕaz* ⇑] kbar … qara še-ha-baħur yarad me-ha-mesila ⇓]]
def-son of-2sg.m B. already arrive,pf-np.m. rel-def-guy leave,pf-np.m of-def-way
'Your son Booz, it has already happened that the guy lost control' (Oz Q 53)

4. we-ha-yeled ⇑⇑]] ʔeyk hi-Slaħ-ta le-ha-biʔ ʔet ha-yeled ⇑⇑]]
et-def-child how caus-cross,pf-2sg.m to-caus-come acc def-enfant
'And the kid? How did you manage to fetch the kid?' (Grossman 163)

5. ʔabal ʔa haba ⇑] *še-tedaʕ* *le-ka* šejnfeld ⇑]
but love rel-2-know,fut to-2sg.m Schönfeld

Sarik liproṭ ʔot-ah li-gruʃ-im ⇓] loʔ laħašob kol-kak gadol ⇓⇓]] (Shalev, 307)
need cut acc-np.f to-cent-pl no to-think so big
'But love, you may as well know, Scheinfeld, you have to split it into small change, don't think so big'

6. li-gdol ⇑] *zot* loʔ ha-mila ha-nekon-a ⇓] b-a-miqre šel-ka ⇓]]
to-grow up dc,f. no def-word def- exact -f in-def-case of-2sg.m.poss
'Growing up is not the right word in your case' (Oz Q 46)

7. le-ʔekol ⇑] *ʔani ʔakal-ti* ʕasab-im ⇓]] we-mayim ⇑] *ʔani* *šati-ti* me-ha-nahar ⇓]]
to-eat I eat-1sg.pf weed-pl and-water I drink,pf-1sg from-def-river
'As for eating I ate weeds, and water I drank from the river' (Shalev 29)

8. ʔat ⇑] ħašab-ti še-ʔat ħaber-a⇓ šel-i ⇓⇓]]
you think,pf-1sg rel-you friend-f of-1sg.
'You? I thought you were my friend !' (Linor 163)

9. belgia ⇑⇑]] *a* *ken*] lipnej ħodᵉš-ajim qabar-ti ʔet ha-melek šel-akem ⇓⇓]
B. ah yes before month-du. bury,pf-1sg acc def-king of-2pl
'Belgium? Oh yeah, a couple of months ago I buried your king' (Pres. E. Weizmann, 29/12/94)

10. *ha-limudey* *qodeš* ⇑] *ʔ*ᵃni *biklal* loʔ mᵉʕunyan ⇓] wᵉ-baħur-ot ⇑] loʔ roʔ-im po ⇓]]
def-study-pl.t.cns sacred I at all no interested and-girl-pl.f no see-pcp, m.pl here
'The holy studies I'm not interested (sic), and girls you don't see here' (Oz)

11. *bᵉ-ʕerek* šiš-im ʔaħuz mi-ma še-katab-ta ⇑] *ʔ*ᵃni *day* maskim ⇓]]
en-value six-pl percent of-what rel-write,pf-2sg.m I enough agree,pr
'About sixty percent of what you say I agree' (Oz)

12.ʔišša bᵉ-herayon ⇑] *yeš* *l-ah* šigᵉʕon-ot ⇓ wᵉ-Sarik lᵉ-hit-ħašeb ⇓]]
Woman in-pregnancy there is to-np.f whim-pl and-need to-rfl-think
'A pregnant woman has whims, one must take into account (sic)' (Shalev 289)

Mishnaic Hebrew

13. ħatån ⇑] ʔim råSå li-qrot qeriʔ-a-t šemaʕ lajlå hå-riʔšo:n ⇑] *qoreʔ ʟ*]]
groom if want,pf-np.m.sg to-call call-f-cns šemaʕ night def-first read,pcp
'A bridegroom, if he wants to call the šma' in the wedding night, [he] calls' (Berakot b 47-48)

14. kɛrɛm še-ħåreb ⇑] ʔim yeš b-o le-laqqeT ʕeɬer gepån-im
wineyard rel-ruin,pf if there is in-np.m.sg to-collect ten grape-pl

le-beyt se?å ⇑]… *harey* zɛ ni-qrå? kɛrɛm dal ⇓]]
to-house se?a then it pass-call,pcp wineyard poor
'A ruined wineyard if one can collect ten grapes for a se?a …is called a poor wineyard' (Kil?ayim 541)

15. bånå bayit ħådåš ⇑]we-qånå kel-i:m ħadåš-i:m] ?omer båruk še-he-ħya-nu]]
build,pf house new and-buy,pf tool-pl new-pl say,pcp bless,pcp.pass rel-caus-live,pf-1pl
'[He who] built a new house and bought new tools says: *Blessed be He who made us live*' (Berakot 9, 42-3)

Biblical Hebrew
16. hå-?årɛS ?ašer ?attå šokeb ʕåley-hå ⇑] le-kå ⇓ ?uɻ-tenenn-åh]]
def-*land* rel. 2sg.m. *lay*, part.sg.m. *on*-np.f. to-2sg.m. 1sg.-*give,*impf.-np.f.
'The land upon which you lay - it is to you that I shall give it' (Gn 28, 13)

17. yehudå ⇑] ?attå ⇑⇑]] y-odu-kå ?aħ-ey-kå ⇓]
Judah 2sg.m. np.pl.ipf.-*thank*, qal-2sg.m. *brother*-pl.-2sg.m.
'Judah, you – your brothers will thank you' (Gn 49, 8)

18. kullå-nu ⇑] ben-ey ?iš ?eħåd ⇓⇓ naħnu]]
all-1pl *son*-pl.-cnst. *man* one *we*
'All of us – the sons of one and the same man are we' (Gn 42,11)

19. ʕaSa-t ? adona-y ⇑] hi:? ɻ tå-qu:m]]
counsel-f.cns Lord she 2sg.f-prevail (Prv 19, 21)
'The counsel of the Lord, it will prevail'

20. ?ånoki ⇑] ?ånoki ⇓ hu:?] moħe p^{e}šåʕ-ey-ka l^{e}-maʕ^{a}n-i ⇓]]
1sg 1sg np.sg.m. delete,pcp.m.sg crime-pl-cns-2sg.poss to-sake-1sg
'As for myself, it is I, the one who deletes your crimes for my sake' (Is 43, 25)

21. ʕɛrwa-t ?iššå w^{e}-bitt-åh ⇑] lo? t^{e}-gallɛ ⇓]]
nudity-cns woman and-daughter-np.sg.f.poss no ipf.2m.sg-discover
'The nudity of a woman and her daughter, you shall not discover' (Lev 18, 17)

22. ha-šåm-ayim ⇑] šåm-ayim lå-?^{a}donay ⇓]] w^{e}-hå-?areS ⇑] nåtan li-bney ?ådåm ⇓]]
def-sky-du.t. sky-du.t. to-Lord and-def-earth give, qal,pf.nop.m.sg to-son,pl.cnst A.
'The sky [is] sky for the Lord, and as for the Earth, he gave to Mankind' (Ps 115, 16)

A typological comparison will illustrate the little relevance of grammatical concepts as far as communicative functions are concerned.

Arabic (classical, Wright, III, § 120)
23. zajd-u-n ⇑] ži?-a ?ila-yh-i bi-kita:b-i-n ⇓]]
Zayd-nom.-def. *arrive,* pass.,pf.-nop.sg.m. *towards*-nop.sg.m.-gen. loc.-*letter*-gen.-def.
Zayd, a letter was brought to him

Latin
24. Mercator Siculus quoi erant gemin-i fili-i, e-i surrupt-o alter-o mor-s optig-it
Merchant Sicilian rel be, pret twin-pl son-pl nop.sg-dat pass-dat one of them-abl death-nom seize-nop.sg.pret
'A Sicilian trader, who had twin sons, to him death seized one and he was deprived of him' (Plaut.Men. 1,2) [4]

Spanish (Argentine, PK)
25a. Dec-i-le lo que quier-a-s ⇓]]
say-imv.2sg.-nop.sg.3act. pr.n. rel. want-subj.-2sg.
'Tell him whatever you want'

[4] I am indebted to Marie-Ange Julia for having called my attention upon this example.

25b. Vos ⇑] deci-le lo que quier-a-s ⇓]]
2sg. dire-imv.2sg.-nop.sg.3act. pr.n. rel. want-subj.-2sg.
'You, tell him whatever you want'

Quechua (Santiago del Estero, Argentine, PK)
26. trincheras ⇑⇑], yayku-q ka-ra-nku kabažu-s-pi ⇓] punchaw-an ⇓⇓]]
country festival enter-ptcp. be-pret.-nop.pl horse-pl.-loc. day-instr/com
The country festival, one went there on horseback, early in the morning

Badaga (Pilot-Raichoor 1991, Actances 5, p. 98)
'L'organisation de la visée communicative qui s'exprime par des variations d'intonation [...] joue un rôle important dans cette langue que nous ne pouvons appréhender qu'à travers son oralité [...] il y a souvent, en tête de l'énoncé, des éléments thématiques sans marque [...] repris par des des substituts précisant leurs fonctions'.

27. Chaque client ⇑] on fait quelque chose de particulier ⇓]]
28. Li quens Rollant ⇑] il est mult irascut ⇓]]
29. Il est garagiste]]. Moi ⇑, les garagistes ⇑, je me méfie ⇓]]
30a. Mon voisin ⇑] il est toujours malade ⇓]] (Di Cristo p. 211)
30b. Mon voisin ⇑⇑]] Il est toujours malade ⇓ ⇩]] (Question, Di Cristo p. 211).

Conclusive evidence is found in ergative languages. In accusative languages like German, Arabic, Quechua, &c., the only actant of the mono-valent verb (let it be Z) is marked as the first actant of the bi-valent verb (X), and both are at what is commonly called the nominative case. It is the second actant of the bi-valent verb (Y) which has a differential mark, commonly called the accusative case. Thus, in German *Ich bin da* 'I'm here' and *Ich habe einen Mann gesehen* 'I have seen a man', Z and X are marked likewise, and there is no positive morphological evidence to conclude that either is a topic as well; it is Y, either directly or on an adjunct, that is marked differentially (*cf.* German *ein**en** Mann*). In ergative languages, on the other hand (leaving aside subtleties of split or of syntactic vs. morphological ergativity) the only actant of the monovalent verb (Z) is marked as the *second* actant of the bi-valent verb (Y), and both are at what is commonly called the absolutive case. It is the first actant of the bi-valent verb (X) which has a differential mark, commonly called the ergative case, thus:

(The last example shows that the np.pr. is not a copula since this is a verbal sentence: the same np.pr. functions in exactly the same way in noun-sentences. A second proof is from the following example, in which the np.pr. does not agree in person with the subject. The np. pr. is a focalizer of the preceding element, nothing else. It is a Discourse marker, not a syntactic marker)

	Accusative languages	Ergative languages
Monovalent verb	Z_{nom} Vb_z	Z_{abs} Vb_z
Bivalent verb	X_{nom} Vb_x Y_{acc}	X_{erg} Vb_y Y_{abs}
Identity of mark	$Z = X \neq Y$	$Z = Y \neq X$

These are the Basque equivalents of the above German sentences:

Basque

31. Ni-ø hemen naiz
1 sg-abs this-loc be, 1sg
'I am here'

32. Ni-k bat gizon-ø ikusi dut
1 sg-erg one man-abs see 1sg.1act-aux- np.sg.2act
'I have seen a man'

The subject *ni* 'I' is marked differently when its is agentive (*ni-k*) and non-agentive (*ni-ø*); the object is marked like the non-agentive subject (gizon-ø).
If we find an X in initial position which is not marked by the ergative case, we shall have positive morphological evidence that X is not a syntactic subject but a pragmatic topic. It cannot be the result of dis-location, otherwise we would have to suppose a morphological mark added then deleted: this would be incoherent with the communicative aim as well as with the types of contexts, registers and speakers that abound in topic-head utterances, *cf.*

33a. Haurr-e-k zopa-ø jan-ik d-u-e
child-pl.def-erg soup-abs eat-pf aux (ukan=have)
The children have already eaten the soup

33b. Zopa-ø haurr-e-k jan-ik d-u-e
soup-abs child-pl.def-erg eat-pf aux (ukan=have)
The soup, the children have already eaten it

33c. Haurr-ak zopa jan-ik d-i-ra
child-pl.def.-abs soup-abs eat-pf aux (izan=be)

The children, the soup, they have already eaten it

Esquimau (Tunumisuut dialect; Mennecier 1991)

34a. piniaqtu-p	iqni-ni	pitaatta-mi	tuni-va-a/
hunter-erg	son- abs	knife-instr	give-2act-he>him

The hunter gratifies his son with a knife

34b. piniaqtu-p	iqni-mii	pitaatta-q	tuni-ip-pa-a/
hunter-erg	son- all	knife-abs	give-der-2act-he>him

The hunter gratifies his son with the knife

34c. piniaqtu-q	iqni-mii	pitaatta-mi	tuni-si-vu-q/
hunter-abs	son- all	knife-instr	give-subj-2act-he>him

The hunter, he gratifies his son with a knife

Naturally, the initial element is not assigned the ergative case only to be deprived of it as soon as it is supposedly dislocated. This would imply a chain of operations that would annihilate each other; moreover this waste of energy and calculus time would be possible in an unconstrained chain of rational and grammatical operations, while it is in situations of spontaneous, affective, immediate and dialogic, strongly context-dependent Communication – especially in child language – that topic-first utterances abound. They are proper to oral rather than written language. This conclusive morphological evidence found in ergative languages is but the overt expression of a situation prevailing in accusative ones too, where it is morphologically covert given the equal non-marking of agentive and non-agentive thematic subject. Inasmuch as the agent supposed to have been dislocated in order to be thematized is in the initial position but at the unmarked case, the pragmatic function overrides the syntactic one. Besides, beyond morphological and syntactic factors, prosodic parameters also converge in all the languages examined, which also induces a strong presumption as for the first and primordial nature of that kind of factors as compared with the syntactic one. Moreover those parameters manifest an iconic rapport between position and rôle, especially, if the utterance be binomial, between initial position and support function. As for the rheme, it is the most important part of the utterance from the communicative point of view. In other words, it is at the prominent part of the informative contour. It tends to be in final position, which is the cognitively privileged one as the item that occupies it is more likely than those on non-final position to be stored in memory, processed and reacted-to in real time. Incidentally, this is also the reason for Zip'fs law, according to which in a string of otherwise equivalent items, the phonologically heavier one comes after a lighter one in the spoken chain. Iconically, the rheme, which is so to say heavier from a communicative point of view, tends also to be at the salient part of the intonative contour; it follows that it cannot be clitic, *cf.* below (focus intonation). Both functions are at the two poles of one and the same continuum. Such examples prove the inadequacy of treating it in grammatical terms, all the more so as they are based on graphic, spatial and bi-dimensional representations of a reality which is auditive, temporal and multi-dimensional. Now linguistics is a natural science: its tools should be in adequacy with the objects it describes and analyzes. Current graphic representations are not suited to this task, even if they prove useful otherwise.
This morphological definitive evidence found in ergative languages is but the overt expression of a situation prevailing in accusative languages too, where it is morphologically covert given the equal marking of agentive and non-agentive subject[5].

We may tackle the question from a different viewpoint. Prolepsis is considered as

'The presence, in a completive construction, of a word or phrase in the main clause […] which is also co-referent with the subject (or the object) of the following subordinate clause' (Fraser 2001), *or 'a syntactic structure in which the main clause includes a sentence part extra-posed from the subordinate one'* (Dubois 1973), or *'prolepse, c'est-à-dire extraposition…'* (Touratier 1980: 55).

[5] Rebuschi ('Diathèse'), confirms that in Basque, the bi-valent verb is in final position and, *ceteris paribus*, thematicity rests upon the actant in initial position, be it subject or object. In Pari, a West Nilotic language from southern Sudan with transitive order OVA, cf. /jòobì á-kèel ùbúr-ì/ buffalo CMPL-shoot Ubur-ERG 'Ubur shot a buffalo', if the agent is topical, he takes the initial position and is not marked by the ergative /-i/, cf. /ùbúr jòobì á-kèel-é/ Ubur buffalo CMPL-shoot-NOP.SG.ABS (Dixon 1995). Unfortunately, Dixon's translation to both versions is identical, which is inconsistent with his own accurate analysis and all the more with so mine: like Wright for the Arabic and Mennecier for the Esquimau, he pays tribute to pragmatic-discursive perspective only to dismiss it right afterwards. Indeed, the translation of the second should be: 'Ubur - he shot a buffalo'. Mennecier agrees with my analysis too, although he does not apply it 'manifestement, les termes mis en valeur le sont a l'absolutif, par le choix des formes subjectives et objectives' (*ibid*., p.24). None transcribes intonation, while both intonation and rhythm in these cases are of crucial importance. I hereby strongly encourage field linguists to transcribe them, and the others to be aware of their actual or of their erstwhile presence.

It refers also to noun-phrase internal constructions such as possessive ones in which the *possessor* is grammatically encoded on the ante-posed *possessum* by an appended suffix which displays agreement - for example, in gender and number - with the possessor. In other words, in the verbal realm oblique complements can be indexed on agents and in the nominal realm possessors can be indexed on possessums. It follows that prolepsis refers to any construction in which an element, whose lexical (or, in some cases, grammatical) specification will be mentioned later, is present on a previous member of the clause or sentence. It follows that prolepsis involves cataphora, and that in the uttered chain, whenever there is so-called prolepsis, a lexical or grammatical morpheme in the main clause precedes a lexical or grammatical *co-referent* morpheme in the subordinate clause. From these definitions it appears that in order for the element in the main clause to be considered proleptic, it need not necessarily be a direct object.
Several questions arise: What is the dynamics leading to the emergence of proleptic constructions: are they the output or rather the input of their syntactically non-marked equivalent constructions, in a more straightforward wording: does prolepsis necessarily involve extra-position? What are the correlates of prolepsis at the typological, into-prosodic, pragmatic, cognitive, biological, functional, pragmatic levels? Is there a special affinity between prolepsis and determination, agentivity, animacy, humanness or other parameters?
Let F be the deictic or nominal *focal object* of the main sentence, and let the same referent also be the T or *topical subject* of the following subordinate: can it have been extra-posed? This is improbable: for the focus (namely the new information) of an utterance to become topic (namely the old information) of a following one is common. As far as Grammar is concerned, the two sentences may merge into one – main and subordinate, then the subordinate become a determinant, and the nominal element may be pro-nominalized at an oblique case:

I. I saw a woman # She was seated on a chair.	J'ai vu une femme. Elle était assise sur une chaise.
II. I saw a woman [who was] seated on a chair.	J'ai vu une femmme [qui était] assise sur une chaise.
III. I saw a woman seated on a chair.	J'ai vu une femme assise sur une chaise.
IV. I saw her seated on a chair.	Je l'ai vue assise sur une chaise.

It agrees with the principle of iconicity: first grasped, first expressed. Then, this element is not new anymore: it becomes topical, grammatically speaking – subject. However, nothing opposes object pro-nominalization before stage IV, say at stage II, yielding

IIb. I saw her [who was] seated on a chair.	Je l'ai vue [qui était] assise sur une chaise.

It follows that there is no syntactic extra-position whatsoever. On the other hand, for a topic, *i.e.* old information, to become focus, *i.e*. new information, is highly improbable. Not on pragmatic, cognitive or dynamic grounds, even if syntactically it may seem so. Indeed, it would be counter-iconic to suppose that in the following sentences the speaker postulates the existence of a woman seated on a chair of whose existence he is still unaware, and then mention that he saw her. This would be the case if there were extra-position, as most if not all authors claim. In other words, we would have a clash between Syntax on one hand, human cognition and Pragmatics on the other.
Indeed, prolepsis, according to the authors quoted above, implies extra-position. Now if we redefine prolepsis not in grammatical but in pragmatic terms, this would mean that: topical, *i.e*. old information, has been extracted from a subordinate clause and presented as focal, *i.e*. as new information, in the main clause. This is highly improbable as a cognitive, pragmatic, and even morpho-syntactic process.

A significant fact is that so-called prolepsis is typical of dialogue and direct speech, not of narrative or reported speech. It follows that so-called prolepsis is indeed not the transformation of a grammatical construct but, quite the opposite, an essentially pragmatic phenomenon.

The hypothesis concerning extra-position is founded upon the existence, in the subordinate, of a lexical (or grammatical) specification of the object present in the main clause. Now what if there is no specification of the so-called extra-posed part in the subordinate clause? From what is it extra-posed then? It is simply not. The presence of such a specification is the second stage, so to say, in the continuum leading from Pragmatics to Grammar: on the first pole, the subordinate contains no repercussion of the so-called proleptic element, only intonative-cum-prosodic marking. At the other pole, there is such repercussion with strict and complete morpho-syntactic and/or lexical agreement. In between, there are several degrees of so-called prolepsis. All is affair of degree: register, spontaneity and style. But in no instance is there obligatory transformation or extra-position, in other words there is absolutely no need to postulate in the first place a syntactically built clause whose subject would have been extracted and extra-posed in order for the main clause to exist, with that subject in an oblique function. An additional fact is the presence of an antecedent to the direct object of the main clause in a preceding sentence. In this case, this direct object is anaphoric and not proleptic to begin with. We shall see it below.

The dynamics of language involves Diachrony but also, among others, Ontogeny, Phylogeny, creolistics and register variation; and not only Grammar but also Pragmatics. Not only do so-called proleptic utterances exist in all diachronic layers and synchronic registers of languages spoken today which harken several millennia back, but - and this is capital - such utterances are all the more present inasmuch as the emotive, communicative, oral and context-dependent factors gain in importance at the expense of rational, conceptual, written and context-free parameters. Moreover one can see, on both internal and external evidence, taking in account pragmatic, intonative, morpho-syntactic, typological and psychological factors, that more often than not, so-called proleptic utterances do not result from the extra-position of elements from sentences previously constructed. Indeed I reject the term *extra-position* inasmuch as it implies the precedence of Syntax over Pragmatics and over language's real nature, which is multidimensional and cognitive and not merely grammatical. Language is not dynamic only as a phenomenon, even its actual manifestations *function* dynamically and each one of them reflects the properties of language as a whole. In this sense, language is a fractal. Even such terms as '*Grammar* or *structure* of information' are misleading inasmuch as they imply a structure, a construction, while the *raison d'être* of so-called proleptic utterances is reflecting a natural iconic pragmatic order relatively independent of the constraints imposed by the structure of the language in which those utterances are produced. So-called proleptic constructions are narrowly akin to topic-first utterances, which are spontaneous and as such require a minimal encoding and decoding effort, while grammatically well-formed sentences must conform to grammatical rules, especially of word-order and agreement. So-called proleptic constructions do include the presence of a co-referent element both in the main and in the subordinate clause, most often with some kind of agreement. This means that so-called proleptic constructions do include a morpho-syntactic component, while topic first utterances not necessarily do. There is however a strong affinity between the dynamic parameters characteristic of utterances with focalization or topicalization and of so-called proleptic ones, an affinity too consistent to be imputed to coincidence alone. As they are founded on pragmatic and communicative factors, so-called proleptic utterances precede their syntactically well-formed, *i.e*. grammatical vis-à-vis, of which they are the second stage in the

gradual displacement from the pragmatic to the syntactic mood. The first stage in this scheme is represented by utterances where a focalized element is not grammatically linked to a following clause. It is not with extra-position that we're dealing but with re-position; not with the stabilized order characteristic of Grammar but with the emergence of order out of the entropy characteristic of Pragmatics; in other words with proto-grammatical utterances, in which iconic, archaic and strongly biologically motivated mechanisms such as focus of a first utterance becoming topic of a second one – which is the reason of the affinity between so-called prolepsis and definiteness, both of which are essentially pragmatic phenomena - and not with the counter-intuitive symbolic and highly complex mechanisms by which the syntactic subject of a sentence would become the subject of another one which governs the first. Thus, if an element is presented as the focus of a clause, it is due to its status of pragmatically focal information, whose semantic nature, if it is not clear from the context, may be revealed in the following clause. Moreover, it may have been revealed before. This is the case of 'I saw him in the battle range about, and watch'd him how he singled Clifford forth' (Shakespeare, 'Richard III'). These sentences are immediately preceded by 'I cannot joy, until I be resolved / Where our right valiant father is become'. Only then comes 'I saw him in the battle' and so on. The identity of the character in the accusative is crystal-clear: it's the speaker's father. This example is very instructive as it shows how important it is to take in account the context and the co-text of any given example in language, because there is no message that is not, to some extent, context-depending including in its very Grammar. These sentences, from Richard's answer to his brother Edward's words concerning their father Henry VI also reveal the extent to which so-called prolepsis is characteristic of dialogic, oral, spontaneous, emotive register. This is by no means accessory.

Agreement and Concord reflect the formal repercussion of one or more properties of the kernel on other members of the clause or sentence. The fact that in so-called prolepsis the same data are encoded twice is of grammatical nature, but it is also of pragmatic origin inasmuch as it facilitates comprehension, memorization and reaction. In any case, this agreement does not imply that a syntactic construction preexisting to the proleptic one from which the oblique element would have been extracted or extra-posed.

All this refutes Milner (1980) according to whom prolepsis is to be analyzed in the framework of transformational Grammar. There is no need, indeed no justification for such a view: language is not a self-contained system but an open and to some extent context-dependent system; its first aim is Communication; and in language, like in any other biological device, functions precede structures. Touratier (1980) is wrong when he claims that the accusative characteristic of many a so-called proleptic element marks it as direct object. No, it marks it as *focus* (Kirtchuk 1989, 2007). Let us bear in mind Lamarck's words (1806) *les usages font les formes,* or, in a more contemporary wording, *la fonction créé l'organe: it is function that creates the organ.* This is the conclusion of evolutionary Biology, and language is a biological phenomenon, a product of Evolution. In this sense, it is performance that creates competence. Whoever does not understand that, does not understand the first thing about Language or about Man. Both are of biological, not mathematical nature.

Just as oral language is not a transformed, marked, deficient or deviant version of written language and just as noun-sentences (*i.e.* sentences whose predicate is a nominal or a deictic element) are *not* transformed, marked, deficient or deviant save for linguists whose mother-tongue is Indo-European - indeed it is the need for a copula which is an innovation in the relatively few languages of the world which display it - likewise so called proleptic utterances are not transformed or deviant except if one departs from Grammar as the starting point and the basic mode of linguistic Communication. Now this is wrong: the first communicative mood in Ontogeny, philogeny, Diachrony, creolistics and stylistics is pragmatic, not grammatical, and this mood is by no means forsaken when the grammatical mode enters the

scene; Grammar is the ever-changing systematization and ritualization of Communication (Hopper) as well as an automated, high-speed device for processing information (Givón) and as such it is an output, a by-product of linguistic Communication, not its input. Let me quote Ochs (1979: 52):

'Becoming more competent in one's language involves increasing one's knowledge of the potential range of structures (PK mechanisms) available for use and increasing one's ability to use them... communicative strategies characteristic of any one stage are not replaced. Rather, they are retained, to be relied upon under certain communicative conditions. The retention of emerging communicative strategies goes on not only during language Acquisition but also throughout adult Life'.

Focus Intonation

The focus or rheme (Pottier 2002 'apport') is the most important part of the utterance from the communicative point of view. In other words, it is at the prominent part of the informative contour. It tends to be in final position, which is the cognitively privileged one as it is closer to the point where speech stops. Thus, the item that occupies it is more likely than those on non-final position to be stored in memory, processed and reacted to in real time. Iconically, the focus tends to be also at the salient part of the intonative contour; it follows that it cannot be clitic, *cf.* in English

1.	A. It's none of my business…	[ˆtsnanovmajbizn^{e}s ⇓]
	B. It *is* none of your business	[ˆti::znanovyo:biznes ⇓⇓]
2.	A. John: We've already done that, right?	
	B. Mary: We have.	
3.	A. John: Gosh!	
4.	A. John: Did Lucy eat the cake?	
B.	Mary: *I* did!	
5.	JD: You live here, don't you?	[julˆvhi::r ⇑ dontju]
	NW: Who lives…?!	[hulˆ:::vz ⇓]

(1) is a piece of dialogue by R.H. Davis ('Deserter', p. 542). In (32A) the focus is *none of my business*. It is this part which is informatively most important, therefore, it is at the salient part of the intonation contour as well. The verb *is* only fulfills the syntactic rôle of copula; therefore, it can be abridged and cliticized. In (12B), however, the focus is the nexus itself, i.e. the fact that it ***is*** *none of his business*. The verb *is* no longer plays the rôle of a copula: it is the focus, the important information, therefore it is also, iconically, at the intonation salient part; its vowel is not contracted but expanded: that is why it is not clitic. The same holds for (2). (3) is not a sentence but a mono-syllabic one-element utterance: its only element is the focus, thus it is at the salient part of the intonation contour; since this contour has no ascending or descending slopes, its salient part stands alone; this is what is commonly called an exclamation. Albeit syntactically non-analysable, it has prominent communicative, pragmatic and intonative values, all of which are iconically linked. In (4), B begins with the subject, which is in the position normally devoted to the topic. It occupies, however, the salient part of the intonation contour: therefore, despite its syntactic rôle and position, it is interpreted as the focus of the utterance. This is even clearer in (5), a piece of dialogue from 'Rebel without a cause'. In James Dean's question, the topic is *you* and the focus is *here*, the verb 'live' being little more than a copula. In Nathalie Wood's answer, however, 'live' is placed at the

intonational prominent part by the length of its vowel: all of a sudden, it gets communicative primacy as well, and becomes the semantically and pragmatically charged focus of the utterance.
To be more explicit yet, let us think of an utterance like: *how clever*. If uttered with a mocking intonation, it means the opposite of its face value. The same goes for *you idiot* with a cherishing intonation, and so on.
All this too shows that in communicative and pragmatic factors, expressed primarily by intonation, rhythm and pragmatic constituent order, form and content are narrowly interwoven, and that those factors and their linguistic expressions override and determine morpho-syntactic forms and rôles, not the other way round.

Further evidence is provided by Akkadian: this Semitic language shows the emergence of a prototypical characteristic of Semitic Morphology (affixed personal indices in order to mark predicative function) out of the coalescence of a nominal stem and a personal deictic. The rheme-theme relation, first expressed by pragmatic and phonological means (the thematic deictic was probably facultative, initially) became a predicative one, expressed by a frozen order of both terms, which ended up morphologizing into a new predicative part of speech called 'verb' (a thorough analysis is to be found ap. Cohen 1984, see also Testen *2004*). This is the diachronic process at the basis of the synchronic 'verbal nexus' as Jespersen (1924) calls it.[6] Another very interesting datum provided by Akkadian is the suffix known as 'enclitic mem', to my mind a deictic element in rhematic function akin to the *ma* which provides both the indefinite / interrogative and the rhematic / predicative ('accusative') suffix, the first of which grammaticalized later, via the mirative function and the exclamative intonation, into a negative marker as well like in Arabic and occasionally in Hebrew too. The 'enclitic mem' of Akkadian is at the exact confluence of Pragmatics, Syntax, Morphology – and Phonology. That this *–ma* fulfill also the role of conjunction should not surprise us: suffice it to think about Laoccon's warning – *Timeo Danaos et dona ferentes* (Aen. II, 49) – where *et* 'and' means really 'even', focalizing the following element: 'I fear the Greek even when they bring gifts'. In Akkadian, *-ma* is likely to have begun as a focalizer, which ended up losing its focalizing power and became a mere conjunction. It is probably one of the sources of the explicit conjunctions crosslinguistically, for intonation and juxtaposition can do the job without the need for an explicit morpheme to express mere conjunction, and that is indeed the case of Turkish, Quechua, &c. It is also the case in French, say, when both elements express one and the same reality, cf. *steak-frites* 'a steak n' chips'.
Indeed, both the morphologization of the predicative nexus as a single form called *verb* and the cliticization of the focalizing element, in which erstwhile independent deictic morphemes become bound, could not have happened if a strong phonological, *viz.* prosodic and intonational coalescence had not taken place to begin with.

[6] A similar though not identical process takes place in French, where the erstwhile thematic, non-emphatic personal deictics often anteposed to the verb become clitic and prefixed to it save in spelling, while their erstwhile emphatic counterparts become independent and thematic but non-emphatic, so that *Pierre il-pense que…* means simply 'Peter thinks that…'. It is in this fashion that colloquial French re-morphologizes the predicative relation characteristic of the verbal nexus once it lost, as a result from phonological processes affecting the system as a whole, the personal endings inherited from Latin (erstwhile independent personal deicitcs as well, which coalesced with nominal element). Let me recount here the following personal experience: my son Teo Samuel aged 30 months in December 2005, acquiring both Hebrew and French as a native speaker, utters sentences such as [ʔani ʁoce maʁak] namely 'I want soup' with the nominal parts in Hebrew and the verbal part in French. Now the French verb is accompanied by a prefixed personal mark which agrees with the subject: for the language acquirer, at least in this particular case, the morpheme 'je' is a bound one. For the sake of accuracy: [maʁak] 'soup' in this context actually designates 'meat sauce'…

The Emergence of the Language Faculty and the Importance of Context

The emergence of language is by all probability an autopoietic process anchored in communicative interaction, eminently pragmatic[7] (cf. also Maturana 1973; Kirtchuk 2007; Mazaudon & Michailovsky 2007).
In other words, language emerged, functions and changes in context and as a function of the interaction with context, which consists of other beings developing, enacting or endowed with language, *i.e*. humans, as well as of all the other constituents of the *milieu:* this is Epigeny. This is true on Ontogeny as well: an infant with no contact with language-using people does not enact his or her own language faculty. In this too, language is a biological reality, since it evolves and is enacted as the result of interaction with context, but in a deeper sense than other biological faculties, which are pre-programmed and not proper to Mankind alone. In this sense, language is a *sui generis* faculty, which requires as a *conditio sine quan non* interaction of other fellow-beings in order to be enacted. Language is, then, an eminently social faculty.
No real linguistic utterance is deprived of context, even if this context is not mentioned in the analysis of the said utterance:

'In the Pragmatics of language, and thus of mind, context is, forever, open ended... Pragmatics cannot be constrained within a closed algorithm without ceasing to be Pragmatics' (Givón MCC 25, 31).

This is just another wording for the incompatibility of generative and indeed all formal Grammars with the true nature of language, for their quintessential postulate is that language *is* constrained by such an algorithm. This is the exact divide between the physical-mathematical approach on one hand, which can be applied to objects of that nature, which are therefore governed by algorithms, and on the other hand biological phenomena, which are not. This is why the generative-formal and the biological-cognitive-functional approaches to language cannot be reconciled and even less so reduced to each other. They are opposed in their very conceptions of language, of the species endowed with language, of emotion vs. thought, action vs. contemplation, and of Life itself vs. non-living objects.
Context is the medium which allows for the dynamics of language, as indeed, of all biological phenomena. It is in context that language emerges, functions, is acquired and develops in Diachrony, Synchrony, Ontogeny, Phylogeny and Diaglottics (*cf.* also Givón 1989, 2005). In the absence of context, language as a faculty does not emerge and thus does not exist, whereas without context particular languages cease to function as such and are then called extinct languages. Dictionaries and Grammars are abstractions based on myriads of contexts, not the other way round. Dictionaries and Grammars imply context. To put it in Ortega y Gasset's words, *Yo* soy *yo y mi circunstancia*. Syntactic analyses which take in account intonation and thus, partially, context, only do it indirectly and implicitly: the unmarked intonative contour is the one corresponding to the declarative mood, be its realization what it may in the language under analysis. If, however, intonation, rhythm and thus context are left out of the analysis altogether, this analysis is no longer an operation but an autopsy: language doesn't exist without *languaging* people (for this term, see Maturana & Varela 1980, 1987). In other words, every utterance is uttered by *somebody* and meant to be heard by *somebody* ('uttering' may be replaced by 'writing' or 'signing' and 'hearing' by 'reading' or 'grasping', and the speaker / hearer may be oneself or an imaginary vis-à-vis; all of those being marked possibilities, which by no means represent genuine language and genuine interaction). The key-term is *recursive interaction* This is how language has probably emerged and this is how it functions in all circumstances: Diachrony; Synchrony, Ontogeny, Phylogeny, creolization and Diaglottics,

[7] It will be noted that the Ecclesiastes (2nd century B.C.E.) had founded Pragmatics, so to speak, by declaring (3, 1-8) that 'There is a time for every thing and a moment for each thing under the sun' .

viz. borrowing. Which means, among others, that language is neither an 'instinct' nor an 'organ': without effective interaction, it does not evolve, is not enacted, doesn't function. Besides, if language were an organ or an instinct, it would be subject to genetic impairments and mutations concerning specific and discreet genes which would control its distinct components. Now there is no mutation that prevents affixal Morphology, or an SOV order or the like, and that is due simply to the fact that there is no gene that governs such grammatical behaviours (*cf.* Lieberman 1991). As for dyspahsies, they are provoked by XXX causes (XXX). All this means also that there are correlations among the various levels which reveal the dynamics of language.

To claim that only context can disambiguate certain utterances or constructions reveals a total lack of comprehension of what language really is and the way it really works. If context can disambiguate a linguistic entity, then it is not ambiguous to begin with, since context is part and parcel of Communication and not some *Deus ex machina* that pops up when no other solution would do (the same is true of rhythm). The first aim of linguistic entities is *not* to provide intellectual challenge or financial gratification to the people who analyze them but allowing people to communicate and interact with each other, and that is exactly what linguistic entities most successfully do, with a very feeble ratio of ambiguity, thanks to the fact that they take into account, beyond the intellectual capacities of speaker and hearer, other properties which are not less constitutive of them, as well as the shared domain(s) in which Communication actually takes place, *viz.* context. In this sense, Pragmatics is not just the sum of the accessory and necessarily non-ideal circumstances in which a supposedly ideal reality of language materializes. Quite the opposite, it is first and foremost the source of language and of its systematization, *i. e.* grammaticalization. Pragmatics is therefore at both ends of language: emergence and application. From a structural viewpoint, yesterday's Syntax is the previous day's Pragmatics and language is the descendant of hominid vocal-cum-gestural Communication. From a communicative viewpoint both levels co-exist, and whenever they are in conflict Pragmatics overrides Grammar. In other words, *Parole* is the laboratory of *Langue* in Diachrony and controls it in Synchrony, and that is true also in Ontogeny and Phylogeny.

Like intonation and rhythm, the crucial importance of context goes far beyond linguistics. For example, Biology considers *micro-environment* as crucial for the survival of cells. Micro-environment is the context in which cells actually live. Evolution is nothing but the permanent adaptation of Life to permanently changing contexts. Life itself is probably an adaptation of matter to an environment which favors Life's emergence, an autopoietic process (Maturana 1973 sqq.) that cannot but occur in the adequate context: this and no other is the pre-supposition behind the present exploration of the universe seeking not for Life as such, but for the conditions necessary to its emergence. The interaction between the organism and its medium in context is Epigeny. Language is the best adaptive application as yet of the best survival strategy available, i.e. permanent Communication among conspecifics which acts as a glue towards the inside, as a weapon towards the outside and as a means to access higher levels, symbolic and context-free. In other words: just as, in a favorable context, Life is bound to emerge, thus language, in a favorable context, is bound to emerge too. Life is the accomplishment of matter through its most radical transformation – from non-organic to organic ; likewise language is the accomplishment of Life through its most radical transformation – from matter to something which is, or houses, something that is not merely matter and that we may as well call *mind* or *spirit*[8]. Atlan (2011) shares the same opinion.
In the process leading to the emergence of the language faculty in Phylogeny and to its

[8] The fashionable concept 'theory of mind' is both wrong and shy – they often go together – as it has nothing to do with theory (in the Popperian sense of the term for example); moreover it is a reality, as it is proven by the very discovery of that concept, which would have been impossible without a mind or a spirit.

activation in Ontogeny (Kirtchuk 1994, 2007): (1) Communication in deictic context emerges before Communication out of deictic context; (2) deictic elements emerge before conceptual elements; (3) melodic and rhythmic (*i.e*. intonational and prosodic) schemes, so-called supra-segmental phonemes, as well as the organs necessary to produce them, emerge before the clusters systemically distinct of articulatory proprerties, *i.e*. segmental phonemes, as well as the organs necessary to produce them; (4) iconic mechanisms emerge before symbolic mechanisms; (5) semantically concrete elements emerge before semantically abstract elements (Li & Hombert 2002); (6) communicative functions (*topic-comment*) emerge before syntactic functions (*subject-predicate*); (7) simple parts of Discourse emerge before complex parts of Discourse (e.g. *noun* before *verb* in the languages which possess this opposition, *cf.* Bopp 1816, Jespersen 1924, Cohen 1984, Barner & Bale 2002, Parish & al. 2006).
Elements which have emerged first in Phylogeny are (1) seldom borrowed (Thomasson and Everett 2002 confirm it though their aim was to infirm it); (2) present in all languages, stages and registers thereof, including Creoles, child language and spontaneous register of adult speech.
The elements that emerged first in Phylogeny (1) emerge first in Ontogeny, Epigeny and Diachrony, (2) are language's hard core in Synchrony.

'The rules that a robot needs to follow are context-dependent rules that do not conceptually differ from the syntactic rules that we use when we use the plural verb which 'agrees' with the plural subject in the sentence *The boys are playing*. Context dependent rules regulate most aspects of human Life' (Lieberman 83). Now this is Pragmatics with a capital P. And grammatical rules are pragmatic inasmuch as they consist in the application of linguistically context-dependent linguistic allo-forms. In other words, Grammar is systematized, ritualized, frozen, so to say, Pragmatics. So is Semantics, insofar as it consists of the abstraction of meaning from a myriad of contextually well-defined situations. Languages are more intelligent than their speakers… but it is because they result from endless verbal interactions between co-enunciators who shaped them from the very emergence of the language faculty, which they had previously induced by the instauration of permanent pre-verbal interaction as a *modus vivendi*. Each and every verbal interaction is a contribution to the never-ending construction of this magnificent piece of architecture which is each and every human language, let alone the language faculty.

Language is only part of the story, as far as communication is concerned; other channels, onto- and phylogenetically older, physio- and psychologically deeper are at work as well. Communication, including human, is not reduced to language.

All this means that had Evolution not been proposed by Lamarck and corrected by Darwin, Language would have been sufficient to suggest it. Now William Jones sketches the kinship of a very small minority of languages in the framework of a language family (to be known as Indo-european) half a century after Linnaeus publishes his 'Systema Naturae' (1737) which includes all the plants known at his time; seven years after Lamarck publishes his 'Philosophie zoologique' (1809), Bopp's 'Über das Conjugationssystem der Sanskritsprache in Vergleichung mit jenem der griechischen, lateinischen, persischen und germanischen Sprache' only corroborates Jones' work; when, exactly half a century after Lamarck's groundbreaking work, great Charlie (Darwin) publishes his 'Evolution of Species', little Ferdinand (de Saussure) celebrates his second birthday; when Watson and Crick discover the structure of DNA, Lucien Tesnière publishes 'Elements of Structural Syntax', exactly one century after Darwin's masterpiece; and when Humberto Maturana publishes 'Autopoiesis: The organization of a living system', Jospeh Greenberg publishes 'The Universals of Human

Language'. Linguistics, which is still describing its object and looks at effects, is a century behind biology, which explains it, contextualizes it and explores its causes. Mission in progress: closing that gap. Linguistics can no more behave as if Darwin had never existed.

Deictics vs. Nouns, Deixis vs. Conceptualization

> *'Es muss aber betont werden, daß Deixis und Nennen zwei zu sondernde Akte, Zeigwörter und Nennenwörter zwei scharf zu trennende Wortklassen sind… die Demonstrativa sind ursprünglich und ihrer Hauptfunktion nach keine Begriffszeichen, weder direkte noch stellvertretende, sondern es sind, wie ihr Name richtig sagt, Zeigwörter, und das ist etwas ganz anderes als die echten Begriffszeichen, nämlich die Nennwörter. Auch die Personalia sind Zeigwörter und daher die Stammverwandtschaft der beiden Gruppen…' (Bühler 1934)*

A thorough analysis of demonstratives in a variety of languages from different families and types which I carried out after noticing, in 1987, the importance of deictics in Pilagá, an Amerind language spoken in North-Eastern Argentina, led me to some unexpected conclusions: demonstratives are the only universal category both in diatopy and in Diachrony, and they have little in common with nouns at any level - Phonology, Morphology, Syntax, Lexicon, Semantics, Pragmatics, Diaglottics (Borrowing, Language Contact, Creolization), Second Language Acquisition, Ontogeny, Phylogeny. In both Synchrony and Diachrony, Deixis is more central and precedes Conceptualization. Two indispensable additional viewpoints are Ontogeny and Phylogeny. In other realms of science, the first is a condensed, high-speed model of the second. Now the cognitive domain and language are the most distinctive properties of Mankind. In consequence, there is no reason to suppose that Evolution in this domain, as well as in that of language as a whole does not reveal parallels at both levels of emergence.

As for Ontogeny, the question is whether at all stages, including in the idiolect of a young infant (< Lat. *in-fa(ns)*, 'non-speaking'), in the process of language Acquisition and of linguistic self-expression, Conceptualization precedes monstration, i.e. 'pointing at'. When dealing with Phylogeny and Ontogeny, these terms denote functions, not categories morpho-phonologically codified in an identical manner as in the adult mother-tongue of the infant (François 1980: 259). The question is not whether in infant language the nominal expressions of adult language appear before 'pronominal' ones, equally codified, but whether the functions fulfilled by each category emerge in the presupposition order sustained by linguistics until now. When a very young infant utters the sketch of a linguistic form, it is an act of Communication in context, and that sketch does not represent a concept ('noun') but a concrete referent in the immediate context defined by the personal, spatial and temporal coordinates (common nouns function as referential proper nouns, *cf.* Coseriu 1981: 19). In this sense, whatever the linguistic utterances of the infant acquiring language, they are deictic. To say it with Bühler (*ibid.*: 158),

> *'Das Kind gebraucht lange bevor ihm ein einziger Mehrwortsatz gelingt, durchaus sinnvoll und für uns verständlich Gesten und die bequeme empraktische Nennung. Also muss diese ontogenetisch älter sein'*

The same holds for Phylogeny. Linguistics is not free to ignore the origin of language just as physics and Biology are not free to ignore the origin of the universe and Life respectively. From this viewpoint, the order of appearance of nouns and 'pronouns' in language is not a false nor a superfluous problem. Science can formulate hypotheses and confirm them or falsify them even on objects whose size, too small, or whose distance, too great, prevent us from direct observation. Languages and the language faculty are objects at least as concrete as

black holes or cosmic radiation. It is relevant to ask if in the history of human language, monstration, sufficient for Communication in context, preceded categorization, abstraction and memorization, necessary, among other things, for Communication out of context. Givón & Malle (eds., 2002) fail to give satisfactory answers; the problem seems to be their basic assumption that the emergence of language is parallel to that of denotation, which is impossible on anatomical and physiological grounds. MacWhinney (2002: 233) says 'only humans can use Communication to construct a full narrative characterization of events occurring outside of the here and now'. That is the truth, but not all of the truth: even the most 'intelligent' apes are utterly incapable of Deixis, namely Communication occurring *here* and *now between dialogic persons on a non dialogic entity,* and that is precisely the difference between primates and hominids: language as we know it allows indeed Communication out of context, but that is one of its most sophisticated stages and functions: if for Givón *et al.* the possibility of communicating out of context equals pre-language, then there is a stage prior to pre-language which is the real origin of language, viz. Communication in context by calling a fellow's being attention to a third entity, viz. deictic Communication, first of all at the first value, etymological value of *pointing at,* to which no other animal than hominids has access. True, Conceptualization distinguishes us from apes, but Deixis does too, and as from every point of view Deixis is prior to Conceptualization, it follows that it is Deixis that most probably equals the origin of language. What Givón *et al.* call pre-language is at best pre-Grammar. Pre-language as they view it contains already a symbolic component, while the true origin of langague contains only iconic components at their boldest expression: gestural-cum-vocal utterances, which later codify as deictic elements with no symbolic content whatsoever: only afterwards does the cerebral equipment necessary to deal with symbolic elements (memory, calculus capacity) emerge, probably as an autoipoietic evolutionary outcome (Maturana & Varela 1980, 1985) of the Communicational needs fulfilled until then only in context, namely by deictic elements. This is also true in Ontogeny (Piaget, *passim*). Deixis is probably the first linguistic function both sufficient and necessary for Communication, social by essence, and yet too complex for other primates than HSS to handle it. Only from Deixis can the other, more sophisticated functions of language, have developed, thus enhancing the evolutionary advantage of Communication in context at will, to the tremendous communicative *and* cognitive device called human language at its present stage:

'Die Menschlich Sprache als DarstellungsGerät, wie wir sie heute kennen, hat einige Entwicklungsschritte hinter sich, die alle dahin verstanden werden können, daß sie sich mehr und mehr befreite aus dem Zeigen und weiter und weiter entfernte vom Malen' (Bühler 255)

Those two distinct functions, whose expressions are marked by a strong iconic stamp - only the second one bears a symbolic stamp as well - are by no means reducible to each other. The first necessitates practically no memory and no calculating power, *i.e.* very reduced brain capacities, whereas the second imply much of both. Deictics allows Communication in context, where the referential center of both speaker and hearer is *ego, hic* and *nunc*, which links it both to Phylogeny and Ontogeny; Conceptualization, on the other hand, allows Communication out of context and reflects a much more advanced stage of brain capacities. Which means that deicticity is not only an essential property of language, but also that deictics probably preceded nouns in the history of language in Diachrony and are more central in the body of language in Synchrony.

An analogy would be the reptilian brain, which is both more ancient and more vital, but also anatomically deeper in the skull than other parts of the brain. The result of this iconic relationship between function and location is that the reptilian brain is both hidden and protected by more recent and less vital structures, e.g. the cortex, the neo-cortex and the neo-neo-cortex, and that its simple and vital functions are considered as inferior to the far more

sophisticated ones of the latter. It is, however, the reptilian brain that is permanently in charge of the vital functions even of the intellectually most developed individual of the most evolved species - the *Homo sapiens sapiens*: ultimately, those functions condition all the rest.
Likewise, Deixis does not belong to the sophisticated, namely the logical, rational or symbolic part of language, used in an adult-like manner and even in written Communication, but to the one that performs its most vital function: Communication in context. It is deictic functions and morphemes that take in charge Communication in highly spontaneous, emotional, vital circumstances, which mostly occur in dialogic contexts, in child language and in oral register.

Just as the reptilian brain and its functions cannot be subordinated to other brain parts or functions, Deixis and the morphemes which express it cannot be subordinated to other parts or functions of language, because it is primordial, anterior and more fundamental than any other linguistic function.

The ultimate consequences of this analysis point to Deixis as the primordial and first linguistic function: Deixis is at the origin of language faculty (Kirtchuk, *op.cit).* It originated in vocal expressions which accompanied gestures hence the simple phonetic structure of deictics to this day; then, as those vocal expressions proved sufficient, gestures became superfluous in most contexts. Yet, to this day, in infant language and also in adult language when necessary, Deixis has both vocal and gestural manifestations. Jakobson (1966) is wrong when he affirms that deictics are merely 'shifters' which allow language to become Discourse: it is the other way round; it is through Deixis that Discourse emerged in our species. Then, through Conceptualization and systematization, i.e. grammaticalization, Discourse became Language along with the organs necessary for it. To put it in Lamarck's words (1809) endorsed by Darwin (1859), here too 'les usages créent les formes', or, in a more modern wording, it is function that creates the organ. And what is more important: Discourse is still the motor of linguistic dynamics. The process by which Language emerged is by no means past and gone, quite the opposite. Not to mention that, to this very day, most languages have no written records and they function and change solely following Discoruse; that all infants acquire language inclmuding grammar through Discourse; that Creoles emerge through Discourse; that Diachrony operates through Discourse. It is a great mistake to assume that language can be analyzed through formal devices alone, which obliterate its dynamics along with its communicative pragmatic and semantic aspects, dwelling on the systematized aspects alone, basically grammar.

Bühler, however, is too tributary to the *Zeitgeist* to accept this inevitable conclusion:

'Die hypothese von der zeitlichen Priorität eines nennungsfreien Hinweisens, ist an sich eine widerspruchsfreie Annahme, die man machen kann… Diese beiden Angaben und Bestimmungsweisen sind in Ewigkeit nicht auseinander abzuleiten…' (Bühler 87).

Deictic demonstratives: A sample

Hebrew (Bibl.)	m. ze, F. zo:-t, PL. 'el-l-e; M.(ha:-)hu, F. (ha:-)hi, PL.M. (ha-)he-m, F. (ha-)he-n
(M.)	M. ze, F. zo:(-t), PL. 'el-l-u:; M. ha:-la / ha:-la-z(e), F. ha:-la-zo:, PL. ha:-la-l-u:
(Cont.):	preceeding + .SG.f (ha-)zot-i
Aramaic	M. d^ena, F. da, 'el-(le), PL. 'il-l-en;
Syr.	M. ha-n, F. ha-da, PL. ha-l-l-en
Arabic	M. ha:-δa:, F. ha:-δi-hi, PL. ha-'u-la:('i), M. δa:-(li)-ka, F. ti-l-ka, PL. 'u-la:-'i-ka
A.Sud-Arab.	M. δ-n, F. δ-t, PL. 'l-n / 'l-t
Ge'ez	M. ze(tu), F. za:(ti), PL. 'el-l-u(tu) /

'el-l-a:(tu)

Akkadian: M. <u, F. <i, PL. M. <u:-nu, F. <i:-ni, REL. <a

1.Proto-Semitic ***'V, h/<V, δV, lV** (Kienast 2001)

Greek M. 'ο, n. το, F. 'η; PL. τοι, τα, ται ; du. τω
ε–κει there, ε–κεινοσ 'he, that, augment for past tenses (= far Deixis)'

Latin h-i-c, hoc, h-a-c; i(-s-te)/a, i(-d), i-ll-e/a (*cf.* i-bi:)

French ce, ce-ci/là, ce-lui-ci/là; cette, ce-(e)lle-ci/là,

Gothic i(-s); sa, θa-ta, so; PL. θai, θo, θos

Sanskrit sa, tad, sa:, PL. te, ta:, ta:s, du. ta:, te:, te: (i-ha < *i-dha 'here');
an-< *e 'that (obl.)'

Slavic tu, to, ta; PL. ti, ta, ty; du. ta, te:, te:

Lithuanian tãs, ta; PL. tie, tõs

Lydian -i(-s)

Hittite ka:- 'this' , *cf.* Palaic ka-, Lith. <i-s (< *ki-/ke-, Greenberg 2000)
si 'NOP.SG.'

Proto-Indo-European ***so , tod, sa:; PL. toi, ta:, ta:s; du. to:, toi, toi**
***is, id, i:; PL. eyes, i:, iyas** (Szemerenyi 1978)
***s/tV, *i / *e ~ *o; n.NOM.acc.SG. *i-(d), m./n. gen. *e(-syo)**
e/o 'NOP.SG.' (Greenberg 2000)

Uralic: Hungrarian e-(z) 'this', a-z 'that'; i/e-(tt) 'here'; -t 'acc. < deF. < DEM.'

Udmurte, Mordvic tu/to 'that', te 'this', so 'that'

Finnish han (<san) 'NOP.SG.'

Altaic: Turkic -(s)i (NOP.SG.POSS.); Sagai i-da 'here'; Chuvash –(s)i 'the'
a-n- 'that', Vl/n 'NOP.SG.'; Yakut ta (NOP.POSS.)

Mongol i-mada (NOP.SG.dat.)' *i- (NOP.SG.NOM.);
e-ji 'to do this', te-ji 'to act thus', je-ji 'to do what?'; te(-re) 'this', e-ne 'that'

Tunguse, Mandchu i (NOP.), *e-(-ri) 'this', Evenki e-duk (NOP.dat.), e-li: (NOP.loc.), e-le 'here', ta- 'that'

Pan-Altaïic *i (NOP.SG.), -ki 'that which'

Korean-Japanese-Ainu:

Korean i 'this', i-mi 'now', -i 'NOM.', ke/ko 'that', /e 'iste'

Japanesei-ma 'now', to 'that', (k)-o-no, (k)-o-re 'this', (k)a-re, (k)a-no 'that', ko-ko 'here'; Old J. si/so 'NOP.SG.'

Ainu i (NOP.SG.poss/obj.); e-ne 'thus'; a(-ne) 'NOP.SG.' tara-an 'that there', te 'here', ta-p 'this', sa-ta 'here'

Yukaghir te-n 'this', a-n 'that', Kolyma a-da 'there, thither', tun 'this', tan 'that'

Gilyak ty/tu; hi (<si) 'hic', ku 'iste', a 'ille'

3.Proto-Eurasian ***sV, tV, * i, *k-i~ k-e 'this',*a~*e/i 'that'**
*ti/te 'this' tu/to 'that' (Greenberg 2000)

Quechua k-ay 'hic', /-ay 'iste', /a-q-ay 'ille'; p-ay (NOP.SG.)

Guaraní ko-a 'this', a-mo 'that'

Pilagá δa, ⁿdi, ⁿdo, na, ñe, ka

4. Proto-Amerind ***kV 'hic', *t/dV, *pV, *mV, *nV, *i- (NOP.)** (Greenberg 1987)

5. Basque (abs.) ho 'hic', ho-ri 'iste', ho-ra 'ille'; PL. ho-k, ho-riek, he-iek
(erg.) ho-ne-k, ho-rre-k, ha-re-k; PL. ho-ek, ho-riek, he-iek

Prototypical demonstratives

Philogeny: absent in all Hominids, present in Man; requires basic brain capacities

Ontogeny: all of the infant Communication is deicitic

Creologeny: present as a distinct category in all Creole languages

Phonology: monosyllabic

Morphology: non-analyzable (not even in root-based languages, *cf.* Semitic)
not categorically transferable by derivation save exception

not subject to declination
form conglomerates (even in non-composing languages, *cf.* Semitic)
Paradigmatics: specific, open-cum-closed paradigm, expands but only within itself
Syntagmatics: may behave differently than noun determinants
Syntax: definite, subject
Semantics: quasi void
Pragmatics: vital; context-depending
Information role: topic
Synchrony: universal, exist independently of grammatical constraints
Diachrony: primary
Diaglottics: seldom borrowed (*cf.*. Moravcsik's loanability scale)
Function: refer to extra-linguistic (+ to discursive) entities = monstration (+ anaphora)

Prototypical nouns

Philogeny: absent in all Hominids, present in Man, requires evolved brain capacities
Ontogeny: in infant speech, nouns do not function as conceptual but as deictic referents
Creologeny: no clear-cut Verb-Noun opposition, Noun is not a category as such
Phonology: polysyllabic
Morphology: analyzable (especially in root-based languages)
categorically transferable by derivation
subject to declination
behave in accordance with the language's Morphology
Paradigmatics: an open paradigm
Syntagmatics: behave as determined or determinant
Syntax: non-definite; object
Semantics: complex
Pragmatics: not indispensable; context-free
Information role: focus
Synchrony: exist depending on gramm. constraints (verbo-nominal opposition)
Diachrony: secondary
Dia-glotics: often borrowed
Function: refer to linguistically construct entities = Conceptualization

Primitive dialogue founded on Deixis and intonation turned a community of hominids into 1st-and-2nd persons, who in this fashion and by practicing this behavior recurrently through a great number of generations became the creators of the language faculty. The element they pointed *at* or reacted *to*, i.e. the non-person was the trigger for its creation. This is supported by Hombert and Li (2001): if concrete nouns precede other nouns in Diachrony and if one connects it with the 2-phoneme root it Semitic, where 3-C semantically heavy 'roots' originate in 2-C semantically lighter ones, one is bound to reach 1-C semantically empty but pragmatically saturated elements: such is the precise nature of deictic demonstratives, which are linguistically codified, semantically void but pragmatically indispensable. Once again, Deixis, not denotation, is the starting point of language *and* human cognition.
Fenk-Ozolon and Fenk (2002: 216) do not say anything different when they affirm:

'our recent and complicated languages most probably are traced back to less complicated rudimentary predecessors in vocal, mimic and gesture Communication… this is a matter of 'Pragmatics' and 'cognitive economy'.

The ultimate conclusion – which they do not draw - is crystal-clear, and yet in the next page they declare: 'considering the universal appearance of simple declarative sentences in all languages which are apt to transcend the *hic* and *nunc* and to communicate about assumptions… '. On one hand they evoke 'less complicated, rudimentary systems', and on the other hand they speak about 'sentences' - hence about Syntax, hence about Grammar, which 'transcend the *hic* and *nunc*', thus being context independent - as being pre-linguistic behavior. This is a contradiction: it is either one or the other.

Moreover, the *'less complicated rudimentary predecessors: vocal, mimic and gesture Communication…'* and the fact that those are *'a matter of 'Pragmatics' and 'cognitive economy'* are by no means behind us: that is what oral Communication in context is about, more than about Grammar and structure. In other words, the factors at the basis of Communication are still there alive and kicking, and we are still biological beings. It is the refusal to admit this, a century and a half after Darwin, which explains why all the theoretical approaches to language coming from linguistics begin with the word 'Grammar' and take that concept for a starting point, a cause, while its is a perpetually changing horizon, an effect. It is our self-image that is reflected in those two different approaches: to some extent, rationalists and 'grammaticists' of all kinds are creationists, at least as far as Humankind is concerned. Their approach implies that man is a stranger, not in Paradise but on Earth. The approach advocated here, on the other hand, considers us as part and parcel of Nature. The fact that the organs dedicated to the most sophisticated cerebral functions are the exteriormost parts of the brain and also its most recent ones pleads for our approach: reason is a latecomer and as far as survival is implied not as indispensable as the functions accomplished by the reptilian brain, both deeper in the skull - thus better protected - and also older in evolutionary terms.

Ontogenetically, phylogenetically and diachronically (it is true for creoles as well as for non-creole languages) language originates in rudimentary *pragmatic* Communication entirely *context-dependent*, achieved by one-term *utterances*; it is totally deprived of Grammar, let alone of sentences, and – at its very beginning - even of Lexicon, *viz.* it is totally deprived of Semantics. There is nothing but Pragmatics. If the elements allowing for that kind of Communication were absent from present day language, they would still be a necessary theoretical construct, like the laryngeals of Indo-European, whose existence ended up being corroborated by Hittite. Fortunately, in order to get a glimpse at these elements and thus 'Getting a handle on language creation', as goes the title of S. Goldin-Meadow's (2002) we are not to wait until *Proto-sapiens* (Greenberg 1987) reveals itself to us. The linguistic tools that allow for such Communication are alive and kicking *hic et nunc*, faithful to their role: those are good old demonstrative deictics. Creolistics and Diaglottics support this claim: all creoles and pidgins have them as a distinct category, but not necessarily other word-classes, and demonstrative deictics are very seldom borrowed, if at all. Thomason & Everett (2002), who aimed at refuting this general and significative trend, end up confirming it.

An argument such as 'the events that led to the emergence of language historically are gone and can never be observed' (Tomasello 2002: 325) is self-evident, hence irrelevant. A physician or a biologist using that kind of disclaimer regarding the origin of the Universe or Life would probably lose their jobs. It is the task of a scientist to deduce the unobservable from the observable, and in order to do that he must start by a very careful observation not overlooking any detail, and then construct a theory such as to encompass all details in the simplest and most evident, elegant and inevitable way. Moreover 'it is the invisibility of the historical phenomenon that gives meaning to the structural dynamics of the organism in the present. History is a construction of a past in order to explain the present; it is a reflection of the observer while contemplating the structure of the organism here and now' (Maturana 2006). Likewise, a formulation such as 'language as we currently know it was not yet *invented*' (MacWhinney 2002: 247) strangely and almost identically recalls *La Grammaire générale et raisonnée de Port-Royal's* ([1660] 1975: 43-44): 'comme les hommes ont été obligés de parler souvent des mêmes choses, et qu'il eût été importun de répéter toujours les mêmes noms, ils ont *inventé* certains mots pour tenir la place des noms et que pour cette raison ils les ont appelé pronoms' (my italics, PK). The term *invention* in this context denotes a profound misunderstanding of the process whereby language emerges, the way it functions and its essential properties. Moreover, it considers language first and foremost as a symbolic, rationalist, arbitrary entity, in the tradition that goes from Aristotle to the Nominalists to

Saussure to Chomsky via Descartes. That opinion is false. This point is of the utmost importance: we humans are biological beings that developed language; language is not a purely symbolic, arbitrary, exclusively rational system nor an alien system cast upon us by extra-natural forces but one whose roots as well as its properties and functioning are deeply marked by a biological, non-arbitrary and non-rational stamp which responds to the first and foremost needs of any species: survival and reproduction, both at the individual and at the collective scale. In order to achieve those goals, the best strategy is to expand Communication and interaction beyond specific acts, periods or spaces - like fighting or mime fighting in order to allow copulation, then copulation itself, or hunting, collecting, nesting and breeding – to comprehend all realms, periods and spaces of Life: to make Communication a way of Life. The fact that Communication *qua* way of Life assumed also, by way of autopoietic evolutive outcome the cognizing, structuring and categorizing function does not change the fact that it still contains an essential communicative function and a central iconic component, which reflects not only in use but in the very structure of particular languages' structures (Grammars) and it keeps grammaticalizing constantly. At the stage dealt with here, that function and that component (to the opposite of the categorizing and symbolic ones) were the only components. The only linguistic elements present in such a stage are deictic and prosodic / intonative (for the importance of rhythm in the constitution of rhythm and intonation, see Meschonnic 1982, 1994).

When 14 months infants shows their parents a toy, they do not mean to say 'I saw it first', which is not necessarily right or relevant. What they do is interacting, communicating their joy or their wish to play with that toy, in other words making other people participate in the feelings experienced or in the activity sought for. That precisely – enhancing cooperation - is the essence of Deixis, which is not the extension of war by other means, quite the opposite. The infant's aim, when pointing at a toy, is not initiating a fight or entering in competition. Competition and fight are the proper of natural selection. Any male peacock enters in competition with the other male peacocks when it displays its feathers. Human language is not a sophisticated version of the peacock nuptial parade or of the deer's cry, quite the opposite, and to this extent it is a singularity, as it is at the other end of Evolution, being Evolution's summit. Human language allows surpassing individual competition to engage in *social cooperation* in order to achieve goals that are not pre-established genetically. It is only after its initial deictic stage that language allows to communicate out of context too and to accomplish its more elaborate functions – categorizing and to an extent creating conceptual reality. This is a determinant evolutive advantage. It is for this reason that language is not reserved to an elite: its value is equivalent to the king's in chess; it is not simply greater but different than any other piece's or than all the other pieces' put together: any species which does not possess language, when confronted with ours, is doomed to lose: It is language that defines our species; to ask why isn't it reserved only to an elite among our species is tantamount to asking why the long neck isn't reserved to an elite among the girafs or the trunk to an elite among elephants. It can be said otherwise: language is reserved to an elite indeed, but an elite among the primates, indeed among living beings in general: the species called *Homo Sapiens Sapiens.*

Deicticity is a pre-eminent property, which also distinguishes language from other sign-systems (Kirtchuk 1993). This is the singular function between animal and human Communication, i.e. beween transfer of iconically pre-coded information characteristic of animal Communication on one hand, and iconically-cum-symbolically, diversely coded Communication characteristic of human language on the other. Deictic Communication, which implies the minimal degree of human cognition both at the mental and at the anatomical-cum-physiological levels is the pre-requisite, indeed the singularity with which language begins, both phylogenetically and ontogenetically, diachronically and synchronically. This is what corresponds to Maturana's 'first order consensus', which

'pertains to the coordination of actions', while 'second order consensus pertains to the coordination of the very coordination activities. There is not only collaboration, but also a second order collaboration in establishing the collaboration' ([1985] 2005). This is, he claims, the basis of language, and he coins this activity ''languaging'', considered as an ongoing process in which recursions takes place. Deixis, however, is both sufficient and necessary for language to exist. Maturana's orders greater than one pertain to symbolic language, while his first order collaboration allows for in-context, that is deictic, Communication. Put in his own words *'What happens when two persons recursively coordinate their preceding coordinations in a continuous process? We may conceive of this as an interaction process in which new sounds and movements are made as ways to agree about the meaning of preceding sounds and movements'* (*ibid*.). This meaning is a pragmatic one, not one put in explicit terms. At all levels, deictics correspond to his 'previous sounds and movements', and lexemes to his 'new sounds and movements'. In his own words: *'Through the recursion of coordinations, the coordinated behaviors become tokens for objects that are brought forth simultaneously with their tokens. We come to perceive the subject matter of our language through our sounds or movements…'* (*ibid*.). Maturana's dictum that 'When writing a text, it is through the text itself that the thing it is about comes to existence', can be extrapolated to Phylogeny and Ontogeny of language, then of conscience: this is how *conscience and human cognition emerge out of language***. Now p**eople do not prototypically communicate by writing but by speaking, it is therefore necessary to substitute the term 'writing a text' with 'languaging' and the term 'the thing it is about' with 'human cognition'. The result is: 'When languaging, it is through languaging itself that human cognition comes to existence'. To use Maturana's words again (*ibid*.):

'The consensuality of distinctions is necessary for the bringing forth of objects. It is through the attainment of consensual distinctions that individuals are able to create objects in language. Only after an individual has attained some familiarity to the use of language he may be able to perceive new objects without consensus with others… Objects do not ontologically precede the coordinating actions of the persons who construct them in language. Nor does the signification of words precede the things to which they apply. There is no kantian world 'an sich' on the one hand, and on the other hand a domain in which that world is symbolically represented… Reality is strictly related to the way in which it is constituted in language'

This is the Sapir-Whorf hypothesis at its strongest version, stronger even than the one brought forward by its own authors, since it does not claim simply that our grasp of reality depends upon the language we speak, but that our grasp of reality is phylogenetically generated by our language ability. 'Though objects do arise during the recursive coordination of actions, each of the interacting individuals is having his own bodily existence in the first place'. This is the deictic experience of *ego, hic* and *nunc*, whence deictic Communication arises. Maturana's claim is both relevant and inaccurate, undoubtedly due to his unawareness of linguistic facts. Language at all of its stages and manifestations displays two kinds of elements and functions: iconic and symbolic, communicative and cognitive, context-dependent and context-independent, deictic and conceptual, pragmatic and grammatical. The earlier we go in Ontogeny, Phylogeny and Diachrony and the deeper we go in Synchrony, to the oral, real-time, emotive languaging, the more iconic, communicative, context-dependent and deictic language is. At its beginning and at its core are those functions and the elements that convey it. Only through the ritualization of social exchanges could the symbolic, cognitive, context independent, conceptual and grammatical components of language have emerged.

Language is not grounded on cognition, as declares MacWhinney (2002:234-5). Human cognition – the specifically human form of cognition, that is - is grounded on language.

The extinction of Neanderthal hominids may derive from their having lacked human speech. At minimum they would have had less efficient vocal Communication – more confusable speech, and perhaps a very slow rate. Any of these deficits would suffice to explain their replacement by our ancestors (Lieberman 1991: 76).

Clearly, deictics have little to do with nouns, and they are by no means pro- (substitutes) of

nouns. It is the other way round, it is nouns that are pro-pronouns, save in anaphora, which is intra-discursive Deixis. Anaphora is an ill-used albeit fashionable term. It is confusion between the general purpose and the particular (intra-discursive) use that generated the traditional view, reflected in the etymology of the term "pronoun". Now the recent proliferation of the term 'anaphora' in linguistic parlance bleaches the insoluble link between language and Communication, language and dialogue, language and reality. It gives the impression that language is a self-contained system, which it is not; it is therefore no wonder that it is in generative Grammar that anaphora gained the status of a new Graal. One can only regret that it permeated functional linguistics too in such an uncontrolled proportion. We know what inferential anaphora is: *Then we reached a river; the other bank was to far away to be seen; 'bank'* is determined because it is one of the semantic properties of '*river'*, 'bank' and 'river' are thus anaphoric of each other; *John drinks a lot since he lost his wife* > what John drinks is alcohol, because one of the syntactic properties of the verb 'to drink' is bivalency and the only object that is semantically both potable and pain-relieving is alcohol, pain being a common feeling when someone loses his wife. We also know what associative anaphora is: *Now that I've got the stamp I can finally send it > 'it' = a letter*, semantically defined by *send + stamp*. Likewise, in the passive voice, the presence of an agent is deducible from the verb's valency and not just on semantic grounds. But if the passive has been selected, it reflects the speaker's will or obligation. Can the absent agent be counted as if it were an active verb's? Namely, does a verb in the passive voice imply zero anaphora to the agent? Does each and every utterance imply zero-anaphora to the person who uttered it, for it has been of necessity uttered (or written, or signed) by someone? Does it also imply zero-anaphora to the person to whom it is addressed, since it is, of necessity, meant for someone to hear (or read, or grasp) it? Does the sentence 'The stars are shining' contain a semantic zero-anaphora to the sky? Or is zero-anaphora limited to Syntax? What is the difference between on one hand zero-anaphora, supposedly expressed *in absentia* by linguistic means, and context, which is of the utmost importance for language to function but which is *implied* - not *expressed* - by linguistic means? Does the concept 'zero-anaphora', in which both the antecedent and its recall are missing, not annihilate the limit between Discourse and non-Discourse, foreground and background, entity and environment? What is anaphora, what is zero-anaphora and what are its limits? These questions are by no means subsidiary.
The functions described above remain that of deictics in adult-language and in systematized language as well; moreover, they reflect in the definite articles, descended of deictics in all languages that possess such articles.

Definiteness

Primarily a pragmatic, essentially deictic ('pointing at') function, definiteness is expressed cross-linguistically by different devices: phonological, morphological, syntactic, and lexical. The most characteristic such device is the definite article (*the*), i.e. a bound morpheme operating on a noun or noun phrase. When it operates on a nonnominal element, the latter is nominalized— it is turned into a noun. Conversely, all deictics and nominals that function deictically (*i.e.* all linguistic elements that 'point out' a referent), including proper nouns, are definite intrinsically.
Definiteness is a scalar opposition, i.e. definiteness/ indefiniteness are two poles between which there are multiple intermediate points. Nonreferential indefiniteness and denominalization are iconically bound to be marked by zero (indicated below by ø), intermediate degrees are cross-linguistically marked by several devices, e.g. indefinite articles (*a*), a clitic deictic demonstrative (*this-*), &c. Definiteness is a multidimensional notion that

can combine referentiality, specificity, identification, actualization, genericity, individuation, familiarity, and shared knowledge. Some combinations are: definite referential, specific, identifying, *cf. The book I am reading is Tom Sawyer*; indefinite referential, specific, nonidentifying, *cf. Tom Sawyer is a book I am reading*; definite referential, specific, shared knowledge, *cf. I'm looking for the book* [I was reading] # ; indefinite referential, specific, nonshared knowledge *cf. I'm looking for a book* [bu:k]… (H that was here a minute ago] # ; indefinite nonreferential, nonspecific, nonshared knowledge *cf. I'm looking for a book* [buk] # (H any book). The last two utterances clearly differ by content and context. The first of the two may answer a question of the type *What are you looking for [on the table/in the room/...]?*, or: *Have you lost anything*? &c. The person answering has a specific book in mind. The second utterance, on the other hand, may represent the first sentence of a client entering a store, who does not necessarily have a specific book in mind. As far as form is concerned, both utterances are likely to differ as well, by means of vowel length, intonation and rhythm. In the first one, the accentuated vowel of the indefinite noun is likely to be slightly longer than in the second utterance, where it is non-marked for length. The intonation contour of the first is less clear-cut and the utterance does not end as abruptly as the second, whose intonation contour is the one characteristic of the affirmative sentence, with a clear descent of tone and ending in a clear-cut pause. In English, if an abstract noun is definite, it is actualized, *cf. ø Truth is what we should stand for, but the truth is that we don't.* Other nouns whose referents too are seen as nonindividuated, i.e. mass nouns, are incompatible with the indefinite article, *cf. The / *a sand*. Compatibility is obtained through individuation by numeral classifiers, *cf. a grain of sand.* When a member of a set is definite but nonreferential, nonspecific, nonindividuated, it is generic, i.e. stands for the whole set and is equivalent to the indefinite nonreferential, nonspecific, nonindividuated plural, *cf. The bear hibernates ø Bears hibernate. A bear hibernates*, in contrast, would be indefinite nonreferential, nonspecific, individuated.

Unique elements are definite, e.g. *the sun*, although they may not be, if they are seen as part of a set, *cf. love under another sun*. There are languages that devote a special form or syntactic structure to mark the indefinite partially referential, *cf.* Fr. *Je cherche du pain 'I'm looking for some bread'*. Negative constructions are hardly compatible with definiteness since most of its dimensions are absent, *cf.* Fr. *Je veux de la soupe 'I want some soup'* vs. *Je ne veux pas de ø soupe 'I do not want ø soup',* Russian *Ivan kupil komputer 'Ivan bought a computer'* (accusative) vs. *Ivan ne kupil komputera 'Ivan did not buy a(ny) computer'* (genitive).This is valid for ergative languages too, *cf.* Basque *Nik dut baratze bat* 'I have a garden' (absolutive) vs. *nik ez dut baratzerik* 'I do not have a garden' (partitive). If negation is identified contrastively, definiteness is possible, *cf. Je ne veux pas la soupe, je veux la salade 'I do not want the soup, I want the salad'*. Nouns that are incorporated into a verb are incompatible with definiteness, *cf. to go hunt a bear* vs. *to go ø bearhunting*, and so are other denominalized nouns, e.g. adverbialized ones, *cf. take ø fire.* A particular effect is obtained when definiteness operates on nouns definite by nature, e.g. proper names (of which the definite article is not a permanent constituent) - referential, specific, *cf. I'm looking for ø (Mr.) Jones* - referential, specific, identifying, *cf. I'm looking for the Mr. Jones who was here yesterday* referential, specific, non-identifying, *cf. I'm looking for a Mr. Jones who is supposed to live here* (when an explicit article is present, prefixed civility classifiers (*Mr...*) or suffixed human classifiers (*...boy/girl*), *cf. a / the Mr. Jones / Jones boy / guy / Beth girl,* &c. block the reifying effect of the article). In English, the definite article allows also to pluralize and actualize proper nouns, e.g. last names: *The Smiths.* In this writer's mother dialect, Córdoba (Argentina) Spanish, as well as in rural French, &c., it is first names that are actualized by the definite article in all functions to convey familiarity.

There are languages in which the article operates on proper nouns that are the topic of the utterance. Topicality (old information) and definiteness are narrowly correlated, as are focality (new information) and indefiniteness. In Nêlêmwâ (Melanesian) /-xe/ functions both

as a definite article and a topicalizer. Topics tend to be subjectal, agentive, human, deictic, and first actants of transitive verbs; topical nouns with any or some of these properties tend to be definite. Focal (new information) ones tend to be predicative, objectal, patientive, nonhuman, nondeictic, second actants of transitive verbs and indefinite. If definite and/or human, they are discursively marked, and often formally as well, *cf.* Sp. *Vi la casa 'I saw the house'* vs. *Vi a la mujer* '*I saw the woman'* Contemporary Hebrew (CH) *[raʔiti ø dira]* vs. *[raʔiti ʔet ha-ʔiša*], Guaraní [*ahe+a oga-ø*] vs. [*ahe+a kuñame*]. Hence, existential constructions (*There is...*) in which the noun is the focus are cross-linguistically incompatible with definiteness, *cf.* Spanish **Hay el libro# * 'There is the book#'* (the asterisk marks ungrammaticality), CH **[ye+ ha-sefer#]*, Fr. **Il y a le livre#* 'id.' One way to override this contraint, viz. to actualize or topicalize an indefinite noun, is to use a deictic demonstrative, *cf. There was a guy#* vs. *There was this guy, who…* or to focalize the existential, *cf.* CH [*ye+ ø-sefer#*] vs. [*ye+ no ha-sefer#*]. Conversely, a means to focalize a definite noun is the presentative construction *cf. Here is the book,* Fr. *Voilà le livre*, CH [*hine ha-sefer]*, Sp. *He aquí el libro.* Accordingly, the definiteness gradient correlates with (1) aspect: bounded action ~ definite agent vs. unbounded action ~ indefinite agent; note that genericity blocks the actualizing aspect, *cf. ø The bear hibernates /* is hibernating*; (2) dynamicity: active verb ~ definite agent vs. stative verb/adjective/nominal predicate ~ indefinite actant; (3) inherency: operating on a nominal predicate, the indefinite article assigns the subject to a set established by that predicate, *cf.* German *Die kirsche ist ø sauer* 'The cherry s sour' vs. *Die Kirsche ist eine sauere* 'The cherry is of the sour type', Fr. *Il est ø psychologue* 'He understands people' vs. *C'est un psychologue* 'He is a psychologist'. The link between (1), (2), and (3) is apparent in Spanish, where *estar* ('be', punctual-dynamic- accidental) is incompatible with the indefinite article, while *ser* ('be', durative-stative inherent) is compatible with it, *cf.* respectively **Está / Es una cereza amarga/(un) sicólogo;* (4) noun class, including sex gender. In languages displaying this category, its marks coalesce with those of Deixis and often definiteness so that the class prefixes in Bantu; Guaykuru (Amerind); &c., function as definite articles. Diachronically, a definite article is descended from a deictic demonstrative. Discursively, the definite article is an anaphoric i.e. an intradiscursive deictic device *par excellence*, i.e. it always points to something mentioned, either previously or afterwards, or given/inferable from context (including general truths). This is accomplished either explicitly, *cf. We reached a river nearby. The river was majestic,* or implicitly, *cf. We reached a river nearby. The other bank was too distant to be seen.* Deixis is also the first function cast upon the definite article by the child acquiring language. These facts illustrate that definiteness is essentially deictic, and hence of a communicative pragmatic nature, which is why it is conveyed in all tongues, albeit not necessarily by a specific morpheme. Quintilian's (born A.D. 35) words: *Noster sermo articulos non desiderat, ideo in alias partes orationis sparguntur* 'Our language does not want articles; hence, thei(r functions) are cast upon other parts of the sentence' apply cross-linguistically; languages not having developed a specific form of a deictic demonstrative to work as a definite article apply to other mechanisms to perform this task. Classical Latin is an example, cross-linguistically current, of definiteness marking in a tongue with no articles: a definite noun is placed in sentence initial position (which often coincides with subject position). There are languages that developed a definite article, then lost it as such either by phonological or by semantic attrition, and then developed a new one. This includes, among others, African languages of various stocks. In Nahuatl, the deictic-nominalizer /in/ functions as definite article when prefixed to the noun; this is corroborated by the fact that when a noun does not bear such a prefix, it is predicative. The suffix /-tl/ marks a vast majority of nouns (except in incorporation, in the plural, when the noun is possessed and in quantifiers, indefinites, and interrogatives); Neo-Aramaic /-a/ behaves similarly. Those are erstwhile deictics that cliticized into definite articles, and then spread to all nouns in all positions and became mere nominalizers. The numeral 'one' often develops a clitic form to mark an indefinite noun as

referential, and the process starts by marking it as specific: CH [ʔexad / ʔaxat] 'one', respectively, M. and F., evolved a clitic form [- (ʔe)xad / -(ʔa)xat], *cf.* [*cipor (ʔa)xat ʔamr-a li*] *'a (certain) bird told me'* vs.[*ha-xasida hi cipor-nod ø*] '*the stork is a migrating bird*'. At present, an anteposed, concording and often stressed form of /*ʔejze*/ 'which', followed by the relative particle /+e/ and a third person deictic is spreading to focalize not the noun itself but its being indefinite referential, specific-, *cf. [ješ ʔejzošehi hitkadmut]* 'there is some [undoubted] progress]'. Both recent marks are incompatible with each other as well as with the definite article /*ha-*/ and with a free deictic, which confirms that (in-) definiteness is a scalar opposition.

Intonation and Rhythm

'Music has a wonderful power, as I have elsewhere attempted to show, of recalling in a vague and indefinite manner, those strong emotions which were felt during long-past ages, when, as is probable, our early progenitors courted each other by the aid of vocal tones. And as several of our strongest emotions -- grief, great joy, love, and sympathy -- lead to the free secretion of tears, it is not surprising that music should be apt to cause our eyes to become suffused with tears, especially when we are already softened by any of the tenderer feelings. Music often produces another peculiar effect. We know that every strong sensation, emotion, or excitement -- extreme pain, rage, terror, joy, or the passion of love -- all have a special tendency to cause the muscles to tremble; and the thrill or slight shiver which runs down the backbone and limbs of many persons when they are powerfully affected by music, seems to bear the same relation to the above trembling of the body, as a slight suffusion of tears from the power of music does to weeping from any strong and real emotion' (Darwin 1872).

No linguistic utterance is deprived of intonation-rhythm. When they are in conflict with other parameters of the utterance, they override those other parameters. The $\delta o \xi \alpha$ according to which intonation-rhythm complicate or circumvene the supposed linearity of language is false no matter how do we look at it. It is segmental Phonology, Syntax and Semantics that complexify the utterance, which may very well be constituted of into-prosodic and deictic elements solely. Language is not linear but multi-dimensional; the rythmic and melodic elements (which have always coexisted with gestural elements, and still do) are the ones upon which the rest is based (Meschonnic 1982, Lieberman 1991). To make it clearer yet, let me evoke a personal experiencee. While flying aboard an airplane bound to France, I looked downwards from the window above the Italian border and to my surprise I noticed a linear succession of stripes alternatively black and white. As I had never heard of such a topographic configuration, least of all in that particular region, I raised my eyes in a broader angle so as to look down not vertically but diagonally. Suddenly, the landscape corresponded to the expected image: the white spots were the snow-covered summits of the Alps and the black spots were the lower slopes. If one looks at language vertically, so to speak, not without a certain condesendence, it appears as being linear, but once we stop looking at it from our intellectual prejudices, we cannot but see the multiplicity of levels, in every possible dynamic aspect. The picture then becomes much more complex and much richer. Moreover, the superposed levels have then to be explained and not merely described, hierarchized and not merely listed.

A completely modern supralaryngeal vocal tract is present about 100,000 years ago in Jebel Qafzeh VI and Skhul V fossils from Israel. The length of its palate is similar to that of present day humans, and the vocal tract would have produced quantal speech sounds that were stable. Recent theories propose that anatomically modern Homo sapiens originated in Africa sowewehere 100,000 and 40,000 years ago, subsequently dispersing through the Middle East to Europe and Asia. The presence of a functionally modern vocal tract in the African Broken hill fossil 125,000 years ago and its retention and elaboration in Jebel Qafzeh VI and Skhul V 100,000 years ago are consistent with this theory (Lieberman 1991: 76).

Yet, incipient language begins to emerge way before that, possibly between a million and two

million years ago. Inasmuch as melodic and rhythmic (*i.e*. intonational and prosodic) schemes, so-called supra-segmental phonemes, as well as the organs necessary to produce them, emerge before the clusters systemically distinct of articulatory properties, *i.e*. segmental phonemes, as well as the organs necessary to produce them; indeed inasmuch as melodic and rhythmic elements are used for Communication by a large number of living beings, the human expression thereof, *i.e.* intonation and rhythm are by no means supra- but sub-segmental.
If a linguistic utterance can be disambiguated by context and/or by intonation-rhythm, it is not ambiguous to begin with.
Indeed a property of language, which has to be reconsidered, is intonation, generally included among the supra-segmental features of the linguistic sound (in both senses of the word) component. Supra-segmental it is, like stress, strictly and only on graphic grounds. When stress is not deductible from the position of the syllable in the word, or when a monosyllable is non-clitic, some languages, like Spanish, indicate it by an orthographic sign over the stressed vocalic segment. Likewise, the alphabetical systems have added an extremely restrained and relatively recent set of punctuation marks, mainly for interrogation, exclamation, a short pause and a long pause; the Hebrew Bible cantilation marks do reflect rhythm, and to some extent, intonation. Now since the study of written languages preceded that of oral ones, stress and, by extension, intonation and rhythm as well were treated like they are in written systems, as little more than superfluous matter. Linguistically speaking, though, this is sheer nonsense: intonation and rhythm, as it has just been shown, override other formal properties of the utterance; incidentally, it is into-rhythm, too, that allows for elementary Communication with infants:

'Mothers alter the pitch of their voice when they speak to their newborns, the fundamental frequency of phonation is higher and sweeps through a range of almost two octaves. The exaggerated intonation serves as a 'directing' signal that highlights the speech addressed to the child. Many mothers continue to do this until the child is two or thee years old. A similar pattern exists among speakers of Chinese… the phenomenon may well be a human 'universal' (Lieberman 1991: 134, cf. also Fernald 1982, Grieser & Kuhl 1988).

This had been noticed long ago:

'Les nourrices… entendent tout ce que dissent leurs nourrissons; elles leur répondent, elles ont avec eux des dialogues très bien suivis; et quoiqu'elles prononcent des mots, ces mots sont parfaitement inutiles; ce n'est point le sens du mot qu'ils entendent, mais … le ton qu'elles y mettent)' (Rousseau, Emile ou De l'Education, pp. 74, 81).

It also allows for Communication with foreign-language speakers and even with animals. All this tends to prove that intonation is not supra-segmental in any true linguistic sense: just as vowels are not additional linguistic features in languages whose writing systems note only the consonants, and just as vowels and consonants are not additional linguistic features in languages whose writing systems do not note either, intonation is not an additional linguistic feature but at least a co-segmental one and even, in my contention, a sub-segmental phoneme, in the sense that it is prior and more important, from the communicative point of view, than the segmental part of the utterance. There are intonations that constitute utterances although they are carried by mere phones not phonemically relevant, whilst no segmentally expressed utterance is deprived of intonation. Every syntactically constituted sentence uttered as such, namely a sentence taken from real linguistic (inter)action has an intonation, but there are communicatively relevant intonations without syntactically constituted sentences. Even languages that we only know through written documents had an oral expression, which preceded their pictorial, ideographic, syllabic or alphabetical representation; nowadays too, most languages are not written but only spoken. To put it boldly, all people communicate by talking, but not all people communicate by writing, and that is all the more true both

temporally - *i.e.* as one goes back in time in Diachrony, in Ontogeny and in Phylogeny - and spatially, *i.e.* as one explores the actual spread and use of language on earth. The relation of intonative and rhythmical phonemes on the one hand and of segmental phonemes on the other hand, whatever their representation by current orthographies or by IPA, is therefore akin to that of deictics and nouns: quite the opposite of what was assumed to this day. According to Hirst & Di Cristo (1998: 2),

'As early as four days after birth, infants have already acquired… the ability to distinguish the rhythm of their native language from that of other languages. The prosodic characteristics of a language are not only probably the first phonetic features acquired by a child… but also the last to be lost either through aphasia or during the Acquisition of another language or dialect'.

In other words, ontogenetically, intonative and prosodic features are acquired before segmental ones and lost after them.

'Human newborn infants have a supra-laryngeal vocal tract similar to that in nonhuman primates. Retaining the nonhuman supra-laryngeal airway during early infancy contributes to biological fitness because newborn infants would not be able to talk even if their vocal tract were fully developed… As infants grow, their palates move backward in relation to the base of the skull. The base of the human adult skull is restructured in a manner unlike that of all other mammals to achieve the adult human supra-laryngeal airway… During normal development the palate gradually moves backward along the bottom of the skull; major changes occur by age three months, but the process continues at a rapid pace until about age five and does not really end until adolescence' (Lieberman 1991: 57-61).

As for Phylogeny

'Unable to utter segmental phonemes - their vocal tract could not form the configurations that are necessary to produce [i], [u] and [a] vowels - the output of the Neanderthal airway is quite similar to that of nonhuman primates and human newborns' (Lieberman 1991: 65).

Thus, while unable to utter even the cardinal vowels, 'they were capable of coding and decoding intonation-cum-rhythm, i.e. intonation and rhythm' (*ibid.*). Indeed,

'All human languages… make use of a melody of speech, an 'intonation pattern', that signals the end of a sentence. The basic intonation, the breath-group, appears to be a modification of the mammalian isolation-cry… The separation calls of mammals are obviously an essential part of the evolutionary discontinuity that differentiates mammals from reptiles, and it is therefore not surprising to find that 'the separation calls of other mammals… are regulated by the cingulated cortex… The normal crying pattern of human infants conforms to the general primate form. The pitch of the infant's voice first rises, stays almost level, and then falls. We retain this vocalization pattern, although we have adopted it for language, using it to segment the flow of speech into sentences' (Lieberman 1991: 18-19).

Let us put it right: not sentences: utterances. But Lieberman's words correspond to Darwin (1872) insight: in the animal realm, musical and rhythmic patterns are used for communicative purposes, and that is how human language started too, but this is by no means a historical statement, inasmuch as language still naturally uses the very same means to achieve the very same goal: Communication. Other means have evolved, but just as reason has not abolished emotion and just as Grammar has not abolished Pragmatics, segmental phonemes did not abolish intonation and rhythm. Let me remind that Jonathan Swift considered Man not as a rational animal but as one capable of reason. The difference, though subtle, is capital.

'To synthetise a continuous text in such a way that a listener can understand it without making a strenuous effort needs a fairly sophisticated approach to the intonation of the text… listeners pay a great deal of attention to prosodic cues in the process of perceiving and understanding spoken language' (Hirst and Di Cristo 1998: XXX)

Nay, not merely *spoken* language. Language.

To claim that an utterance is ambiguous on the grounds that intonation is not transcribed is tantamount to claiming that a depicted horse is ambiguous on the grounds that the organs whose absence or whose presence affect it to one sex or the other are not represented. The real animal is either a horse or a mare, and the real utterance means often one thing or another (or another, &c.) depending on intonation. Making linguistics on the basis of deficient transcriptions is equivalent to making zoology on the basis of depicted animals. When dealing with ancient tongues, one has no choice - there is at least one exception: Hebrew Bible cantilation marks do reflect rhythm, and to some extent, intonation - but one has nevertheless to remember that intonation was there, even if it is not transcribed.

No linguistic utterance is deprived of intonation-cum-rhythm. If a linguistic utterance can be disambiguated by context and/or by intonation-cum-rhythm, it is not ambiguous to begin with.

All this tends to prove that the so-called suprasegmental phonemes are not of one and the same nature. Quite the opposite: this part of Phonology – and thus Phonology as a whole - must be re-founded, especially when one bears in mind that, contrarily to the structuralist dogma, phonemes *do* carry meanings albeit subconsciously (Fonagy, *Voix*).).

Let us add that there is nontheless an important affinity between oral and written language, which is both cognitive and (thus) historical: Oral language results from the highly iconic intonative cum rhythmic emissions used for communicative goals, which in due course were partially devoided of their iconic component; thus, if we have in present day language plethora of onomatopeic signs and devices, which are all t he more present as we go backwards in language dynamics, we have even more of them which reveal no iconic content whatsoever. While rhythm keeps its essentially iconic nature, segmental phonemes, though they have a subconscious and sometimes conscious iconic context (cf. Fonagy 1983) are by and large symbolic. The same holds true for the alphabetical writing systems: the bull's head ideogram which iconically represented the word *ʔalup*, 'bull' in Semitic, became an alphabetic sign when the Phenicians understood that it could be taken to represent the first sound of that word as it is pronounced in any other word: thus, the icon of the *ʔalup* 'bull' became a symbol for the glottal stop *ʔ* called aleph, borrowed by the Greek as alpha, then by most alphabets of the world along with the rest of the other Semitic letters.

The Nature of Intonation

This induces some thought on the nature of intonation, generally included among the suprasegmental features of the linguistic sound (in both senses of the word) component. Supra-segmental it is, like pitch accent and tone, strictly and only on graphic grounds. When pitch accent is not deductible from the position of the syllable in the word, or when a monosyllable is non-clitic, some languages, like Spanish, indicate it by an orthographic sign over the accentuated vocalic segment. Likewise, the alphabetical systems have added an extremely restrained and relatively recent set of punctuation marks, mainly for interrogation, exclamation, a shorter pause and a longer pause. Now since the study of written languages preceded that of oral ones, pitch accent and, by extension, intonation and rhythm as well, were treated as they are in written systems, as little more than superfluous matter. Linguistically speaking, though, this is sheer nonsense: intonation, as I have just shown, overrides other formal properties of the utterance;

incidentally, it is intonation, too, that allows for elementary Communication with infants[9], with foreign-language speakers and even with animals. All this tends to prove that intonation is not supra-segmental in any true linguistic sense: just as vowels are not additional linguistic features in languages whose writing systems note only the consonants, and just as vowels and consonants are not additional linguistic features in languages whose writing systems do not note either, intonation is not an additional linguistic feature but at least a co-segmental one and even, in my contention, a sub-segmental phoneme, in the sense that it is prior and more important, from the communicative point of view, than the segmental part of the utterance. There are intonations that constitute utterances although they are carried by mere phones not phonemically relevant, whilst no segmentally expressed utterance is deprived of intonation. Every syntactically constituted sentence has an intonation, but there are communicatively relevant intonations without sentences. Even languages that we only know through written documents had an oral expression, which preceded their pictorial, ideographic, syllabic or alphabetical representation; nowadays too, most languages are not written but only spoken. To put it boldly, all people communicate by talking, but not all people communicate by writing, and that is all the more true as one goes back in time in Diachrony, in Ontogeny and in Phylogeny. The relation of intonation phonemes and segmental phonemes, whatever their representation by current orthographies or by IPA, is therefore akin to that of deictics and nouns: quite the opposite of what was assumed to this day (for Deicticity, *v. infra).*

This means also that the dichotomy oral-written is a false one to begin with. A mother who sings a lullaby to her child (and most mothers do, in all cultures worldwide, since immemorial times) does not need to have learnt to read music (and most mothers do not), indeed musical notation is a very recent invention, surely practical but by no means indispensable for music to exist, and unknown of most people on earth. Likewise, writing is by no means indispensable for language to exist: most people on earth since the very dawn of our specias to this very day cannot write, which does not prevent them from speaking. Our very anatomy, physiology, genetics and psychology on are conditioned by the orality of the language faculty. The rest, no matter however useful, is anecdotical.

Tones

Hombert (1975a; b; c) has shown tones to emerge following the attrition of segmental phonemes, and that no language is tonal to begin with. An example of this can be found in Contemporary Hebrew, where the neutralization of the opposition between Classical qåmac and på̱ta*ħ* along with the attrition of the fricative pharyngeal lead to a re-phonologization of those oppositions between identical vowels in terms of tone. Thus, /påʃar/ (oxytone) ‘to open wide’ - PRET. NOP.SG.M, /pa‘ar/ (paroxytone) ‘a gap’, /par/ ‘a bull’ are now distinguished, by a growing number of speakers, by an ascending tone, a descending tone and a mono-tone respectively, as are all words of the same pattern. The neutralization of the opposition between the unvoiced dorso-alveolar and the unvoiced fricative-lateral, as well as the de-phonologization of emphasis, are also partially compensated by this phenomenon: /ṭåʃan/ (oxytone) ‘to argue-PRET.NOP.SG.M', /tan/ ‘jackal’; /såʃar/ (oxytone) ‘to tempest-

[9] ‘Les nourrices… entendent tout ce que dissent leurs nourrissons; elles leur répondent, elles ont avec eux des dialogues très bien suivis; et quoiqu’elles prononcent des mots, ces mots sont parfaitement inutiles; ce n’est point le sens du mot qu’ils entendent, mais l’accent dont il est accompagné… le ton qu’elle(s) y met(tent)’ (Rousseau, *Emile*, pp. 74, 81). Though the practical side of children’s education repelled him to the point of giving away all his own five children one after another as soon as they were born, the author of *‘Le Contrat social’* was an excellent observer of children behaviour.

PRET.NOP.SG.M', /sa‘ar/ (paroxytone), ‘a tempest’, /sar/ ‘a minister / to be removed-PRET.NOP.SG.M’ display the same phonological distinction. I thank my student A. Yuditzki for an observation that led me to these conclusions. They apply to Santiago del Estero Quichua (this dialect as well as Ecuador’s preserve the original /i/ vowel in the language’s name) as well, where the attrition of /w/ between identical vowels induces the emergence of tonal distinctions (Kirtchuk 1987).

Here is a list of the minimal pairs in Contemporary Hebrew following the emergence of tons thus confirming Hombert 1975.

Biblical Hebrew	Contemporary Hebrew
/ʕ/ = [ʕ]	[Ø] + [ʔ] (+ [ʕ])
/ʔ/ = [ʔ]	[Ø] + [ʔ]
/w/ = [w]	[v]
/b/ = [b] + [β]	[b] (+ [v])
/t/ = [t] + [θ]	[t]
/ṭ/ = [ṭ]	[t]
/ɮ/ = [ɮ] + [s]	[s]
/s/ = [s]	[s]
/ṣ/ = [ṣ]	[ts]
/k/ = [k] + [χ]	[k] + [x]
/q/ = [q]	[k]
/å/ = [å]	[a]
/a/ = [a]	[a]
/e/ = [e]	[e]
/ɛ/ = [ɛ]	[e]

CH: tone 1: high tone 2: low tone 3: middle

Examples: (The first row represents BH variants, the second CH ones)

bå'ʕal	‘baʕal	bal
[1]bal ‘possess a woman, PF.NOP.SG.M SG.M’	[2]bal ‘husband’	[3]bal ‘not’
bå’ʕar	‘baʕar	bar
[1]bar ‘burn, PF.NOP.SG.M SG.M’	[2]bar ‘ignorant’	[3]bar ‘wild’
gå’ʕal	gal	
[1]gal ‘deliver, PF.NOP.SG.M’	[3]gal ‘wave’	
gå’ʕar		gar
[1]gar ‘admonest, PF.NOP.SG.M’		[3]gar ‘inhabit, pr. 1,2, NOP.SG.M.’
då’ʕak	dak	
[1]dax ‘lower, PF.NOP.SG.M’	[3]dax ‘mortified’	
ṭå’ʕam	ṭaʕam	ṭam
[1]tam ‘taste, PF.NOP.SG.M’	[2]tam ‘goût’	[3]tam ‘candide’
ṭå’ʕan	tan	
[1]tan ‘argument, PF.NOP.SG.M’	[3]tan ‘chacal’	
jå’ʕaṣ	‘yaʕaṣ	
[1]yac ‘counsel, PF.NOP.SG.M’	[3]yac ‘counsel’	

kå′ʔab [1]kav ‘cause pain, PF.NOP.SG.M’	qaw [3]kav ‘line’	qab ‘béquille’
kå′ʃas [1]kas ‘be vexed, PF.NOP.SG.M’	‘kaʃas [3]kas ‘wrath’	
må′ʃal [1]mal ‘fraud, PF.NOP.SG.M’	maʃal [2]mal ‘fraud’	mal [3]mal ‘cut, circumcise pr. 1,2, NOP.SG.M.’
må′ʔas [1]mas ‘disdain, PF.NOP.SG.M’	‘maʃaɮ [2]mas ‘action’	mas [3]mas ‘tax’
nå′ʃal [1]nal ‘put on a shoe, PF.NOP.SG.M’	naʃal nal ‘shoe’	nal [3]nal ‘afore mentioned’
nå′ʃar [1]nar ‘bray, PF.NOP.SG.M’	‘naʃar [2]nar ‘young man’	
på′ʃar [1]par ‘open, PF.NOP.SG.M’	‘paʃar [2]par ‘gap’	par [3]par ‘bull’
så′ʃar [1]sar ‘storm, PF.NOP.SG.M’	‘saʃar [2]sar ‘tempest’	sar [3]sar ‘minister ; PART.PR. 1,2, NOP.SG.M.’
‘ṣaʃar [2]car ‘ ‘sorrow’	ṣar [3]car ‘narrow’	
så′ʔal [1]šal ‘ask, NOP.SG.M’	‘šaʔal [2]šal ‘step’	šal [3]šal ‘take off a shoe ’
‘šaʃar [2]šar ‘gate’	šar [3]šar ‘sing’	
‘taʃar [2]tar ‘barber’s knife’	tar [3]tar ‘turn around; visit’	

The Articulatory / Auditive nature of language

‘With social animals, the power of interCommunication between the members of the same community, - and with other species, between the opposite sexes, as well as between the young and the old, - is of the highest importance to them. This is generally effected by means of the voice, but it is certain that gestures and expressions are to a certain extent mutually intelligible. Man not only uses inarticulate cries, gestures, and expressions, but has invented articulate language; if, indeed, the word invented can be applied to a process, completed by innumerable steps, half-consciously made’ (Darwin 1872).

All linguistic utterances are uttered orally and meant to be perceived auditively. Any other transmission system of linguistic utterances, *e.g.* writing or elaborated sign-‘languages’ - to the difference of gestures - are but secondary representations of a system whose phonatory and auditive properties are constitutive and inherent. They are constitutive of Man just as bi-pedalism is inherent to his spatial posture, both static (position) and dynamic (movement).
Just as the anatomy of the legs is conditioned by the fact that they support the body and move it about, the anatomy of the larynx in Phylogeny and Ontogeny is conditioned by the fact they articulate language, and the anatomy of the skull is conditioned by the form and volume of the

brain, determined by the presence of organs developed in order to give birth to language or as a by-product of it. Hence, our very aspect - human aspect - is conditioned by language. On the other hand, the anatomy of the hands in Phylogeny and Ontogeny is *not* conditioned by the fact that they communicate by signing.
From the two preceding statements it follows that the Communication mode proper to humans is spoken language and not sign 'language'. Incidentally, the hands of a human adult, a human infant and an ape are practically identical, while the larynx of a human adult is positioned much lower than a human infant's or an ape's (or any other mammal, for that matter). Which means, once more that our very anatomy is conditioned by phonetically articulated language, while our hands are not conditioned by sign 'language'. If that had been the case, presumably there would be developmental differences in that respect between human infant and human adult, and between human adult and ape.
If two million years of Evolution preferred vocal language to sign language, it is because the latter monopolizes the hands of the signer as well as the eyes of the observer, while spoken language does not monopolize the speaker's organs of phonation / breathing / ingestion, nor the hearer's audition ones. This is so because sound propagates spherically (we do not need to have ears in our back in order to hear whatever is said behind us), while light rays propagate in straight line, as a function of its diffraction angle (we does not grasp an image unless we have our eyes upon it, or that it is otherwise included in our field of sight). When light is inexistent or insufficient, or when survival depends on Communication coupled to action in real time, *e.g*. coordinated group defence / attack against competing groups as the *Homo Sapiens Sapiens* was emerging as a different species; or – closer to our time - when a surgeon is operating on a patient and communicating with his assistant, or when an astronaut is executing instructions received from the ground station while communicating with it, the advantage of spoken language is determinant.
The fact that language as such and its particular manifestations - particular languages - are constitutively spoken and not signed or written is reflected in languages' structure: as a rule, segmental phonemes with co-articulation don't play a grammatical role but rarely (see the post-glottalized, so-called 'emphatic' consonants in Semitic) and are subject to strong constraints (*cf.* the Grassmann law in IE).

Iconicity

Onomatopoeia and Phono-Iconicity

'Actors who forget the importance of voice' - says Paul Valéry - 'do not take in account an essential part of language'. And what about grammarians?

Onomatopoeia (henceforth OP) is the well-known cross-linguistic phenomenon by which a linguistic element is phonetically inspired on the sound of the reality it conveys. Thus, in English metal is said to *clank*: this word is phonetically inspired on the very sound conveyed by its meaning as it is (1) perceived by the speakers and (2) reproduced according to the constraints of English Phonology. These are the principles of OP across historically documented languages:

'There is an open set of infinite noises in the world… Nevertheless, we tend to accept many instances of onomatopoeia as quite adequate phonetic equivalents of the natural noises. How can language imitate, with such a limited number of speech sounds, an infinite number of natural noises? Take the bird called "cuckoo". The cuckoo's name is said to have an onomatopoetic origin: it is said to imitate the sound the bird makes, and the bird is said to emit the sound [kukuk]… the bird emits neither the speech sound [k] nor [u]; it uses no speech

sounds at all. It emits two continuous sounds with a characteristic pitch interval between them, roughly a minor third. These sounds are continuous, have a steady-state pitch and an abrupt onset. The overtone structure of the steady-state sound is nearest to the formant structure of a rounded back vowel, and the formant transitions indicating a [k] before an [u]. That is why the name of this bird contains the sound sequence [ku] in some languages… First, behind the rigid categories of speech sounds one can discern some rich pre-categorial sound information that may resemble natural sounds in one way or other; and it is possible to acquire auditory strategies to switch back and forth between auditory and phonetic modes of listening; and second, certain natural noises have more common features with one speech sound than with some others' (Tsur 2001).

As for Phono-Iconicity, henceforth PI (the term 'sound-symbolism', often used in this context, implies the opposite of what it says: we are not dealing with arbitrary *symbols*, but with motivated *icons*), it is narrowly related to OP. PI does not result from a direct imitation of natural sounds, but it displays nonetheless a relationship - either conscious or subconscious - between sound and meaning. Therefore if some of the following data belong to PI rather than OP, this should not prevent them from being treated in this framework. *In fine*, I shall show the extent to which OP and PI are related to LUIT (Kirtchuk 2007 and forthcoming).

Hebrew has several advantages as far as linguistic research is concerned, particularly when topics as central as OP and PI are at stake. On one hand, it has a long and well-documented history; on the other, it has been reactivated barely one century ago. The first situation is uncommon, the second unique: yet both display OP and PI, proving that it is a deep, far-reaching and lively device of linguistic expression. Were OP and PI characteristic only of the early stage of particularly old languages, we would expect to see it in Biblical Hebrew (BH) but not in its contemporary counterpart; were it typical of child-language, we would expect it to have no significant influence on grammatical and lexical structures; were it to reflect only emotional, oral and spontaneous imitation of sounds found in trivial situations, we would expect it to be absent from Grammar and from highly systematized, symbolic, context-independent Communication in general. None of these expectations is fulfilled: just like intonation-rhythm, Deixis and iconicity, OP and PI too are found in all languages, moreover in their very Grammar, and in all their diachronic stages, synchronic uses and stylistic registers, including those of Hebrew. Yet it is convenient that Hebrew, of all languages, serve as a focal point to universal inquiry. Indeed, we re not dealing only with Hebrew as such but with the language faculty, and with the form of Life it characterizes, *i.e.* Man. One generation after Weinstock (1983) we no longer consider the biological origins of language as a taboo. It is a licit question, provided it is explored by scientifically acceptable methods (Kirtchuk 1993). OP and PI are key-pieces in this connection.

Darwin (1872) intuited that the origin of language (OL) is in pre-linguistic Communication founded on rhythmic and intonative devices based to a large extent on the imitation of natural sounds. So does our contemporary Maturana (1973 *sqq*.). Fonagy (2007) shows the importance of emotional factors in the way language functions at its present stage. Bolinger (1949 *sqq*.) shows the adequacy found in language, to some extent, between content and form, *i.e.* iconicity, whose best exponent are OP and PI. Language most probably originated as the systematization of permanent Communication in context, presumably triggered and guided by emotions and characterized by a high degree of OP and PI, yet those factors continue to permeate language at its present stage too. OL is narrowly linked to OP and PI, but OP and PI are part and parcel of Language itself at whatever stage. As far as the emergence of the language faculty is concerned, we only dispose of languages with at most 5.000 years of documentation and of reconstructions which harken back only twice that period, namely 10.000 years at most, but they are valuable pieces in *LUIT – Language: a Unified and Integrative Theory* (Kirtchuk 2007 and forthcoming), a - hopefully - elegant, consistent and coherent solution to a puzzle - the puzzle of Man, of which language is a major, indeed an indispensable piece. Those languages and reconstructions allow to solve the puzzle of language provided one brings into consideration other data as well, *e.g.* the anatomy and

physiology of the pharynx, larynx and the organs they contain, and especially their Ontogeny and Phylogeny, as well as those of Broca's and Wernicke's areas in the brain. Suffice it to say that physicists and biologists dispose only of observable data, which does not prevent them from using those data in order to build elegant and consistent theories about the emergence of the Universe (some 15 billion years ago) or terrestrial Life (less than 4.5 billion years - the age of the earth - ago). The emergence of language is a much more recent phenomenon. OP and PI, which we can grasp through actual tongues such as Hebrew, is a major device in our understanding of language and the way it functions, not only diachronically, phylogenetically or ontogenetically, but also synchronically, in our very own mouth, ears and brain. This evidence would suffice to corroborate Lamarck (1801-1809) corrected by Darwin (1859).

Hebrew displays OP from its oldest layers to our day (Horowitz 1960). Far from being an amusing mechanism with rather limited presence and influence, OP permeates the Hebrew Lexicon and Grammar deeply, widely and consistently. In order to show it, a brief introduction to the theory of the root in Hebrew and beyond is necessary.

The 3-P (3 phoneme) structure of the Semitic root conceived by the Arab Grammarians and applied to Hebrew by Yehuda Hayyuj (10^{th} century CE) levels all roots into a single pattern, at the cost of intellectual operations which necessitate a high degree of abstraction, nay invention, since they posit a third consonant when only two or even a single one are actually present. An opposite view, according to which Hebrew roots are bi-phonemic to begin with has been suggested by Leibniz (1672-6), Gesenius (1871), König (1895), Halevy-Hurwitz (1913), Bergsträßer (1962), Diakonoff (1965), Ehret (1995) and Bohas (2007). Kirtchuk (2003; 2007; 2009) shows the relevance of this view within the framework of *LUIT* and enlarges its scope from Diachrony to Synchrony, from Semantics to human cognition and from Hebrew to Semitic and beyond. Indeed, a proper analysis of the alleged 3-P roots in Biblical Hebrew allows recasting them into 2-P groups whose number is reduced by a whole order, from 10^3 to 10^2. Moreover, in this realm Lexicon and Phonology are linked: the phonemes most frequently used to expand 2-P roots, modulate their basic meaning and restrain their application to a particular context or field are the reduplication of the second phoneme, or of both, or the adjunction of a sonorant of the group:/l, m, n, r/, or of vowel length represented in some forms of the paradigm by /w, j/, or of an expressive ('guttural') of the group /h, *ħ*, *ʔ*, *ʕ*/.

In all cases there are articulatory and acoustic properties which reflect a physiological and psychological, i.e. biological reality. In some cases, phonemes constituting 2-P elements share articulatory features and differ only by one such feature as voice, emphasis, articulation point &c. An expansion is thus obtained by the application of the *least effort* law: a phoneme is added or changed which demands the least effort as compared with one phoneme of the existing 2-P group. This is a psycho-physiological process not in the least arbitrary, coupled with a cognitive-semantic modification of restrained nature as well. It is therefore an iconic process. Expansions obtain also, in a minority of cases, by the adjunction of an unrestricted 3^{rd} phoneme to a 2-P root.

As the bi-phonemic elements at the basis of the tri-phonemic expansions often reproduce a natural sound, they reflect OP and PI. It follows that the original root-bases included a perceived vowel or a sonorant implied by the very process of imitation to which OP and PI boil down to. It is from the syllable so formed that the bi-phonemic element was abstracted (Lipiński 1997). Which means that the structure of Semitic and Indo-European roots is identical, enhancing Greenberg's *Eurasiatic* (2005) and Dolgopolsky's (2008) *Nostratic* – two different terms for a fairly identical reality, *i.e.* the common ancestor of Afro-Asiatic, Indo-European and other language families, descended ultimately from a single stem (Greenberg's *Proto-sapiens*).

Here is a list of those bi-phonemic groups whose onomatopoetic basis, which probably contained a vowel or a sonorant, is easy to grasp - even if the Hebrew forms are not exactly those reconstructed for Proto-Semitic, (Dolgopolsky 1999) Afro-Asiatic or an even more remote ancestor, *cf.* Greenberg (2005) and Dolgopolsky (2008) - with their respective expansions (see also McCrum 1997, Nänny & Fischer 1999). The list is based on a thorough analysis of BH roots. The general sense of the bi-phonemic root is given in bold. For some of them, a possible overall sense is added *in fine.*

b/p-z/s/ʒ: sound made by a **swift movement** (*cf.* Eng. *buzz*)
bzz 'spoil, plunder' (*cf. baz* 'falcon'), bzbz 'waste', bzy 'despise', bwz 'despise', nbz 'despise', pzz 'be agile, excited; *ħ*pz 'be in a hurry", p*ħ*z 'be excited > reckless', tp̲ʒ '[move swiftly and] seize'

b-h: sound made by a **frightened** person or meant to cause that effect (*cf.* Eng. *boo*)
bhl 'dismay', bhy 'chaos', bhh 'contemplate with dismay'

b/p-*ħ*/ʕ/w/y: sound made by a **springing / boiling / inflating** fluid (*cf.* Eng. *boil, bubble*)
bwʕ / bʃʕ / bʃbʃ 'boil, bubble', nbʃ 'spring', nb*ʔ* 'prophetize < utter a flow of words', bʃr 'sound made by burning matter', bʃy 'cause to swell or boil up'; pw*ħ* 'inflate, blossom', np*ħ* 'inflate', yp*ħ*, p*ħ*y, p*ħ*t 'deflate', tp*ħ*:'blow, inflate, deflate', *ʔ*p̲y '[inflate by] cooking (dough and the like)'. The following is a variant with an occlusive (post-) velar:

p/b-g/q: sound made by an explosion or a violent movement outwards, including a fluid (liquid or gas) stirring up, flowing, blowing, gurgling or whirling intermittently
bky 'cry', bwk / bwq '(stir up water or spring >) be confused'; nbk 'spring', ˈbk 'whirl', *ʔ*bq 'dust', pky 'trickle', hpk 'overturn, make into a shambles' (*cf.* BH buqa 'waste following a cataclysm', mah[a]pe*k̲*a 'overturn'); baqbuq (Jer 19, 1; 10 'clay recipient, CH vessel', bqq 'flow' , Jer. 19, 7 'flood, ruin' (*cf.* BH river and sources names *ʕejn boqeq, jaboq*), pgl 'reject', pgʕ 'hit (> get in contact with, *cf.* Eng. 'hit the road')', pgm 'hit, wound', pgr '[hit > faint >] die', pgʕ '[hit > get in contact with >] meet', pwg ' [be hit >] go numb', pgy 'bloom of the fig', pqpq '[go out of certainty >] doubt ', špq [go out of stock, antonym] suffice', pwq 'bring outwards', *ʔ*pq 'flow outwards', pqʕ 'spring off (buds from plants)', bqʕ 'spring off (birds from eggs)', pq*ħ* 'open eyes / ears / mind', pqd '[hit / set apart >], appoint, fall upon, issue'

p/b-ṣ/ṭ/ʕ/: sound made by a **burst / breaking** of a solid (*cf.* Eng. *burst*)
pṣṣ 'break', pṣpṣ 'break into pieces', pyṣ 'scatter', npṣ 'shatter', pṣ*ħ* 'cause to break', pṣl 'split, press', pṣr 'press', pṣʕ 'break, wound', pṣy 'open', pṣm 'split open', bṣʕ 'cut', bṣr 'cut apart, protect', ypʕ 'shine out', nbṭ 'sprout', bṭ*ʔ* 'to open lips'

p/b-r/l: sound made by **iterative or sudden separating, dismantling, scattering,**
pr*ʔ* 'wild ass', pl*ʔ* 'separate from the ordinary', prd 'divide', plg 'split', pry 'burst in fruit', ply 'be separated', prr 'split, divide', pr*ħ* 'bud, sprout, shoot / fly away', pl*ħ* 'cleave', prṭ 'break off', pl*ʔ* 'escape', prk 'display violence', plk 'territorial subdivision', prm 'unsew', prʕ 'become loose', prp 'unbind', prs 'divide', prṣ 'break through', plš '[break through and] invade', plṣ 'shudder', prq 'dismantle', pll 'separate right from wrong > judge or pray for [clement judgment]', prs 'expand', pls 'weigh out', prpr 'tremble', ʕpr 'leap, be agile', ʕpl 'disappear', npl 'fall', br*ħ* 'escape', brq 'lightning separating the sky', brr 'separate', bdr 'district (*cf.* plk above)', pzr 'scatter', bzr 'distribute', prz 'open', brz 'appear'
burst, divide

d-š: sound made by **hitting an object** (*cf.* Eng. *dash*)
djš 'thread', dš*ʔ* 'that which is marched upon > grass', dšn '[smear with] oil or greasy matter', *ʔ*dš 'beaten to apathy', *cf.* CH dšdš 'marching repeatedly or fast without advancing (e.g. on sand or mud) ',

t/ṭ-q/*ħ*: sound made by **hitting a hard object** (*cf.* Eng. *tack*)

btq ‘cut’, ntq ‘separate by cutting’, ʕtq ‘[cut and] transfer’, rtq ‘seize’, štq ‘cut (stop) talking’, ṭ*ħ*y/ṭw*ħ* ‘shoot’, ṭ*ħ*r ‘eject’, ṭ*ħ*N ‘grind’, ṭy*ħ* ‘besmearing a wall’; *cf.* CH ta*ħ* [tax] ‘strong noise’.

ṭ-p: sound made by a **dripping liquid** (*cf.* Eng. *tap*)

ṭpp̲ ‘drip’, ṭpṭp̲ ‘drip’, nṭp̲ ‘spill’, ṭwp̲ ‘drip’, ṭpp̲ ‘march as if dripping’, ṭnp̲ ‘dirt’, štp̲ ‘overflow’, šṣp̲ ‘overflow furiously’
‘drip, flow intermittently’

g/k/q-z/ṣ/š: sound made by **tearing or stripping apart**

gzz ‘shear’, gwz ‘vanish’, gzy ‘cut stone’, gzl ‘steal’, gzm ‘cut’, gzr ‘cut’, qṣṣ ‘cut off’, qzz ‘cut off’, qss ‘strip off’, kss ‘divide up > compute)’, qsm ‘distribute’, qṣy ‘cut off’, yqṣ ‘awake’, qwṣ ‘thorn’, qṣb ‘cut off, shear’, qṣp ‘splinter’, qṣʕ ‘cut off’, qṣr ‘shorten’, qšš ‘cut and gather stubble’, qšy ‘be hard’ (*cf.* miqšå ‘hammered work’), nqš ‘beat’, qš*ħ* ‘be rough’

g/k/q-l/r sound made by **rolling or flowing**, a ‘round’ sound (*cf.* in many languages *gloogloo,* and the like for the same purpose; *cf.* also the terms for /l/: a *liquid,* and for /r/, in French*: roulé, cf.* Eng. *‘a rolling stone’* someone moving to and fro’; ‘surround’ move around so as if to contain)
gll/glgl ‘roll’, gly ‘move / wave /dis-cover’, grr ‘drag away’, grm ‘erode’, grp ‘take away’, gwr ‘sojourn for a while (then moving away)’, grš ‘expel’, grʕ ‘diminish’, grs ‘grind’, gry ‘small coin’, grgr ‘grain’, krt ‘amputate’, grn ‘threshing ground’, ngr ‘flow’, *ʔ*gr ‘gather < converge’, *ʔ*gl ‘dripping dew’, rgl ‘go around’, *ʔ*gn ‘bowl, bassin’, kll ‘surround, contain’, klkl ‘provide’, ykl ‘contain, be able’, *ʔ*kl ‘[surround, contain by] eating’, klʔ ‘[surround, contain against somebody’s will] emprison’, kly ‘[surround, contain by] a recipient > tool’, ʕkl > [surround, contain by] digestion’, kl*ħ* ‘[surround, contain by] exerting power’, kwl ‘contain’, nkl ‘[surround, contain by] cunning’, klb ‘[surround, contain by] encaging’, klm [surround, contain by] iniquity’, krr ‘semi-spheric hollow recipient > measure of fluids’, kwr ‘semi-spheric, hollow furnace’, kry ‘make hollow, spheric, dig a hole’, nkr ‘take a deep and comprehensive look > know, recognize’, krʕ ‘deeply bow’, krs ‘[round] belly’, qll ‘be slight, swift, trifling’
cyclic / circular / spheric movement / position / volume

q-b: sound made by **hitting something in order to make a hole in it, tapping**
qbb ‘vaulted tent, utter curse against’; nqb ‘pierce, hit, curse’, qby ‘stomach’, yqb ‘hollow, cavity’, qbl ‘opposite > attack > take > get > receive (for the semantic process, see eng. ‘get’), qbr ‘[dig a] grave’, qbʕ [hollw] cup’, rqb ’[get hollow by] rotting’. CH: [kavkav, kafkaf] ‘type of sandals which taps the ground’

k/q/*ħ*-t/ṭ sound made by **cutting or percuting** (*cf.* Eng. *cut*)
ktt percute’, ktš ‘bray’, ktl ‘cut into blocks > wall’, ktb ‘lisrot > write’, ktr ‘cut around > crown’, ktp̲ ‘shoulder’, lqṭ ‘pick’, qwṭ ‘break’, qṭb ‘destroy’, qṭl ‘kill’, qṭm ‘amputate’, qṭn ‘belittle’, qtʕ ‘cut’, qṭp ‘pluck off’, *ħ*tt ‘break’, *ħtħ*t ‘[break through] obstacle in path’, *ħ*tk̲ ‘cut’, *ħ*tl ‘wrap’, *ħ*tm ‘cut short > seal’

q-r: sound made by **shivering**
qrr cold, qr*ħ* ‘ice’, qwr ‘bore, dig’, qry ‘befall’, qr*ʔ* ‘befall’, dqr ‘pierce’, nqr ‘bore, dig’, qrn ‘horn’, yqr ‘hard > dear’, qrʕ ‘tear’, qrb ‘battle’, qrs ‘hook’, qrṣ ‘sting’
exert pressure on one point in space or time.

ṣ/š/*ɮ*-f: sound made by **whistling or hissing**

ṣp̲r ‘peep > bird > cover or call by noise > fly over’), ṣpp̲ / ṣp̲ṣp̲ ‘chirp, peep’, ṣpy ‘lay out/over’, ṣp̲ʕ ‘offspring; snake’s hiss’, ṣwp̲ ‘float over’, rṣp̲ ‘pave over’, ṣp̲*ħ* ‘be wide over’, ṣpn ‘cover, put veil over’, ṣp̲d ‘draw together, contact over’ (*cf.* CH [tsif-tsif] ‘birdsong’), špp̲ ‘horned snake’, šwp̲ ‘bruise’, špy ‘sweep bare’, nšp̲ ‘blow’, nšb̲ ‘blow’, šp̲l ‘be abased to the ground like a snake’, šp̲ʕ ‘abundance’, šp̲r Aram. ‘unveil’ > ṣap̲ra ‘break of dawn’, *ɮ*py ‘lip’
blowing horn, beauty, good health, good disposition (*cf.* in many cultures, whistling as an expression of admiration towards beauty)

š-s: šsy ‘plunder’, šsʃ ‘divide, cleave’, šsp̲ ‘hew (probably from ššʃ + syp̲ ‘sword’)’

m-š: sound associated with **caressing, fondling** (for palatality as an affective feature, cf. Fonagy 1983, Kirtchuk 1987)
mšš, mšmš, ymš, mwš ‘touch with care, feel with one’s fingers’, mš*ħ* ‘smear, anoint’

m-l/r: sound made by **parting one’s lips** (cf. Eng. Murmur)
mwl ‘cut’, mll ‘articulate, utter’, mlml ‘utter’, mlq ‘nip off’, mhl ‘adulterate wine’ (*cf.* Fr. ‘couper le vin’), mr*ħ* ‘rub’, mrq ‘scour, polish’, mrṭ ‘scour, polish’, mwr ‘move to and fro > change’, mrr ‘passe by > drop’, *ʔ*mr ‘say’, ymr ‘pretend’, mry ‘be contentious, refractory, rebel’
cut [apart] > separate lips > utter

m-*ħ*/g/k/q: sound made by **striking** (*cf.* IE *még- ‘hit > fight > power, able > big > man)
m*ħ*y ‘strike’, m*ħʔ* strike’, m*ħ*q ‘erase’, m*ħ*ṣ ‘smite’, m*ħ*ṭ ‘squeeze’, mwg ‘vanish, be afraid, weak’, mwk ‘be poor, weak’, mkk ‘weaken’, mwq ‘mock’, mqq ‘rot’, ʃmq ‘low, deep’

l-ʃ/q: sound made by **chewing and swallowing**
lʃʃ ’swallow’, lwʃ ‘speak’, blʃ ‘swallow’, lʃṭ ‘swallow greedily’, lʃs ‘chew’, lʃz ‘talk unintelligibly’, ltʃ-tlʃ ‘jaw’, lʃb ‘jest’, ʃlg ‘speak strangely’, lʃg ‘mock’, lglg ‘mock’, lhg ‘speak much’

l-q: sound made by the tongue and lips when **licking or lapping**
lqq ‘lap, lick, glean with one’s tongue’, CH lklk ‘id.’, lqṭ ‘pick, glean’,

n-q sound made by the throat when **groaning, sighing, sucking** and the like
*ʔ*nq ‘groan’, n*ʔ*q ‘id.’, *ʔ*n*ħ* ‘sigh’, ynq ‘suck’, qyn ‘mourn aloud’, qnn ‘id.’

r-ṭ: sound made by **shivering, trembling**, possibly with metathesis
rṭṭ ‘tremble with fear’, rṭš ‘dash into pieces’, lṭš ‘sharpen’

r-q/g/k: sound of feet **tapping on the ground**
rqd ‘dance, rqʃ ‘stamp, beat’, rq*ħ* ‘beat and mix’, hrg ‘kill’, rqm ‘variegate’, rgz ‘agitate’, rgl ‘go about’, rgm ‘lapidate’, rgn ‘backbite’, rgʃ ‘disturb’, rgš ‘be in tumult’, rkk ‘make tender by beating ‘, rwq ‘emptying, making void’, rqq ‘making thin’

r/l/n-h sound made by **humming or smelling**
ry*ħ* ‘odour’, r*ħ*r*ħ* ‘smell’, ly*ħ* ‘humidity’, l*ħ*l*ħ* ‘moisten’, sr*ħ* ‘smell bad’, n*ħħ* ‘fragrance’, rw*ħ* ‘wind’

ʃ-k/q sound made when **charging a heavy object**
ʃks ‘rattle, tinkle’, ʃkr ‘disturbing, noise’, ʃwq ‘totter’, ʃqy ‘press’, yʃq ‘distress’, ʃgm ‘be grieved’, ʃgn ‘strain’, ʃqb ‘heel, foorprint’, ʃqd ‘tie fast’, ʃql ‘bend, twist’, ʃqm ‘curve’, ʃqr ‘hamstring’, ʃqš ‘twist’

ħ/ʃ-m: sound made in **reaction or desire of sensual** (gustative, tactile…) **pleasure** (*cf.* Eng. *mmm*, Fr. *miam*)
*ħ*mm ‘warmth’, y*ħ*m ‘sexual heat’, *ħ*mm ‘protect’, *ħ*md ‘desire’, *ħ*wm ‘auburn’, *ħ*mr ‘red’, *ħ*ml ‘pity, human warmth’, r*ħ*m ‘mercy, womb’, *ħ*ms ‘treat violently’, *ħ*mṣ / *ʔ*mṣ be red’, *ħ*mt ‘recipient for [red =] wine’, nʃm ‘arouse by words, be agreeable’, n*ʔ*m ‘deliver a speech’, n*ħ*m ‘soothe by words, console’, hamula ‘noise of words or otherwise’

ħ-r: sound of **piercing or engraving** by metal or fire (*cf.* Eng. en-*gr*-ave)
*ħ*rt, *ħ*rṭ ‘engrave’, *ħ*rš ‘plow / forge’, *ħ*rs ‘scratch’, *ħ*rṣ ‘trench’, *ħ*rk ‘shades’, *ħ*rr ‘make a hole’, *ħ*rb attack, *ħ*rg ‘rage’, *ħ*rd ‘fear’, *ħ*ry ‘burn’, *ħ*rk ‘set in motion’, *ħ*rl ‘dry’, *ħ*rm ‘exterminate, forbid’, *ħ*rs ‘sun’ *ħ*rṣ ‘gold’, *ħ*rp ‘blush’, *ħ*rq ‘gnash’

h-s / š -q: sound made as to **imitate or induce silence** (*cf.* Eng. *hush*)
hsy ‘quieten’, (h)šqṭ / štq ‘be quiet’

q-r sound made by a rooster **crowing**, qrqr ‘hen’s cluck’

ḥ-ṣ: sound made by **cutting through** with an obtuse object
*ḥ*ṣṣ ‘cut through’, *ḥ*ṣy ‘cut through’, *ḥ*wṣ ‘outside’, *ḥ*ṣb ‘dig out’, *ḥ*ṣr ‘clear up’, l/n*ḥ*ṣ ‘exert pressure, urge’, š*ḥ*ṣ ‘vanity’

h-q sound made by a **sudden or repeated inspiration of air**
ghq ‘chug’, šhq ‘gasp’, phq ‘yawn’

ḥ/ʔ-š sound made by **swift movement**
*ḥ*šš ‘hasten’, *ḥ*wš ‘haste’, ‘wš ‘lend help’

Punctual examples in BH are:
ʔoy, ʔ^{a}b̲oy ‘lament’ (Is. 24, 16, *cf.* Lat. *vae*), dah^{a}ro̲t̲ dah^{a}ro̲t̲ ‘galloping’ (Jud. 5:22)

CH being essentially a projection of older stages of the language (vocabulary and Morphology inspired on BH, Syntax inspired on MH), it displays OP and PI in the roots inherited from BH, but it has also created its own OP and PI elements in the typical domains of animal expression, movement and natural phenomena. They are often metaphorized to denote the expression of human emotions (cf. also Darwin 1872). Here are the most notorious examples of CH verbal roots inspired on OP.

zmzm 'buzz’, ptpt ‘chat’, ršrš ‘bruise like paper or banknotes’, šp̲šp̲ ‘rub’, drdr ‘let stones roll downhill’, hmy ‘coo’, mlml ‘murmur’, nšnš ‘pick small quantities of fruit, grains or the like at random from larger heaps or servings’, slsl ‘make sonore or visual circumvolutions’, flq, šos, zbeng ‘hit somebody in different manners, provoking different (and characteristic sounds, < Yidd.), dšdš ‘walk upon mud’, bqbq ‘bottle’, ndnd ‘swing’, ṣfṣf ‘tweet > despise’, ṣyṣ ‘chirp > utter’, lkk ‘lick > adulate’, lklk ‘lick’, kḥkḥ ‘rackle one’s throat’, hnhn ‘hum in acceptance’, zpzp ‘zap’, dp̲dp̲ ‘leaf, flip’, šqšq ‘shiver, tremble, totter > fear’, hmhm ‘purr’, škšk ‘bath one’s feet in a river, lake or the like’, ṣlṣl ‘ring’, gʃy ‘moo > cry aloud’, gʃgʃ ‘quack’, krkr ‘croak’, pʃy ‘bleat’, ṣhl ‘whinny, neigh > rejoice aloud’, yll ‘meow > complain’, ʃṭš ‘sneeze’, kwḥ, kʃkʃ, grgr, npp ‘speak through one’s nose, emit nasalized sounds’, gmgm ‘stutter’, šrq ‘whistle’, hmhm ‘murmur in one’s beard’, mṣmṣ ’blink’, pmpm ‘pump’, gnḥ ‘groan’, nḥr ‘snore’, gwr, dhr ‘gallop’, nbḥ ‘bark’, hṣṣr ‘blow a trumpet’, tss ‘ferment’, qss ‘bite one’s nails’.

As it can be seen, verbs created on onomatopoetic roots are often built on the patterns $C_1C_2C_1C_2$ or $C_1C_2C_2$. Much like in BH, in Semitic, or – as far as those patterns imply reduplication - in language in general. Indeed, reduplication and OP and PI are often associated, although the scope of reduplication is much wider on iconic grounds: it may reflect repetition at the semantic or pragmatic level, and not only at the phonological level (for a comprehensive bibliography, see Magnus 1997-2006). It may even be one link between raw and proto-grammaticalized Communication : *‘Reduplication of the syllable in the* [Hebrew] *word "l^{e}tsaftsef" relates it to the transition from the child's babbling stage to the […] use of verbal signs’* (Tsur 2001) *; ‘By the repetition of the same syllable children signal that their phonation is not babbling but a verbal message"* (Jakobson & Waugh, 1979: 196, *cf.* also Waugh 1993). This phenomenon, highly iconic and constitutive of language in Ontogeny but also in Phylogeny, creolistics, Pragmatics and even in the synchronic Grammar of any given language, reflects OP and PI inasmuch as it allows for the sound transmitted to be more evidently repreesented, and more closely to its natural manifestation, which is often repetitive and not semelfactive. In other words, OP and PI in Hebrew are iconic not only inasmuch as they reflect a direct link between sound and meaning, but also inasmuch as they contain iteration, just like (often) nature, which includes

our own habit to repeat ourselves in order to be sure our message is heard, interpreted and reacted to. OP and PI help grasp Man not as a context-independent, symbolic, arbitrary and rational species but as one whose members are *capable*, as Jonathan Swift had it, of projecting themselves beyond immediate context and have access to reason and symbols, and yet who are, like the members of any other animal species, anchored in emotional, sensitive, iconic, context-dependent representations. Thus OP and PI make a decisive contribution towards our understanding of our own species. To say it with Sir Arthur Eddington (1920): 'We have found a strange footprint on the shores of the unknown. We have devised profound theories, one after another, to account for its origins. At last, we have succeeded in reconstructing the creature that made the footprint. And lo! It is our own'.

It is the task of linguistics to disclose the unity underlying the different aspects of language and the relationships among them. Grammar, *i.e.* the structure of the linguistic system, is the specific domain of linguistics – Biology, Psychology, Philosophy won't deal with that specific component of language. Yet Grammar results from the dynamical introduction of a symbolic order in the initial entropy proper to interaction based on pragmatic criteria and communicative needs, expressed by highly iconic means including among others OP and PI. As this dialogic interaction and these criteria, needs and means are always at work Grammar fades away as soon as it bothers Communication rather than helps it, as communicative factors - greater urgency, emotivity and the like - require it. Grammar is a means, not an end, let alone an organ: in this case, we would expect a gene for the passive participle, another one for the subject function… which might, moreover, be impaired: some speakers would be unable to obtain the second person of the dual masculine at the optative mode. Yet such speakers are not to be found.
It is the task of linguistics as well to reveal the links between that particular aspect of language with its other aspects. In other words, linguistics is at the same time specific and general, it deals with structural components but at the same time it should deal with language as a whole and as a part of a larger phenomenon. Indeed with language *qua* puzzle, a key part of another puzzle. OP and PI are, along with Intonation-rhythm and with gestu-vocal Deixis, at the very origin of the language faculty. And just like Intonation rhythm and Deixis, OP and PI are still there, alive and kicking, at all stages and types of present day language, be it the newborn's or the adult's, oral or written, isolating, agglutinative or flexional. OP and PI are count among the most proving evidence to the biological origin of language as intuited by Darwin (1872), corroborated by a biologist such as Maturana (1978, sqq.) and by the author of these lines. OP and PI confirm that the greatest imitator in Nature is a primate indeed, but not the chimpanzee or the bonobo. It is *Homo sapiens sapiens*.
Temptation is great to consider OP and PI as rather primary and even silly devices, not compatible with deep scientific insight and unworthy of being among the essential properties of a phenomenon as complex as language. Science, however, is not an intellectual beauty contest and the scientists' subject matter is not their own navel nor their peers' navels nor the navel common to them all. Science is not all about showing (off) intelligence; it is all about arriving to results agreed upon by reality. It is not to their peers that scientists are accountable in the first place and as last resort but to reality. Formal linguistics, which often builds conceptual architectures that display great beauty and subtle intelligence, does not seem to consider linguistics as a science, since it enjoy transgressing each and every one of those truisms.

Other Manifestations of Iconicity

'Many signs, moreover, which plainly stand in opposition to each other, appear to have had on both sides a significant origin. This seems to hold good with the signs used by the deal and dumb for light and darkness, for strength and weakness, &c… the opposite gestures of affirmation and negation, namely, vertically nodding and laterally shaking the head, have both probably had a natural beginning. The waving of the hand from right to left, which is used as a negative by some savages, may have been invented in imitation of shaking the head; but whether the opposite movement of waving the hand in a straight line from the face, which is used in affirmation, has arisen through antithesis or in some quite distinct manner, is doubtful. If we now turn to the gestures which are innate or common to all the individuals of the same species, and which come under the present head of antithesis, it is extremely doubtful, whether any of them were at first deliberately invented and consciously performed. With mankind the best instance of a gesture standing in direct opposition to other movements, naturally assumed under an opposite frame of mind, is that of shrugging the shoulders. This expresses impotence or an apology, -- something which cannot be done, or cannot be avoided. The gesture is sometimes used consciously and voluntarily, but it is extremely improbable that it was at first deliberately invented, and afterwards fixed by habit; for not only do young children sometimes shrug their shoulders under the above states of mind, but the movement is accompanied, as will be shown in a future chapter, by various subordinate movements, which not one man in a thousand is aware of, unless he has specially attended to the subject' (Darwin 1872)

Language displays **Iconicity** to a high degree, since it is characterized by a clear link between meaning and form, as Jespersen (1922) and Bolinger (1964) suggest. To a certain extent one could also mention Peirce (1940), but his work is not truly linguistic. In the last two decades there has been some regain of interest in the subject, v. Haiman (1985), Givón (1985), Simone (1994), Landsberg (1995). Markedness is also important in this respect. To give but a few examples, let us mention the semantic correlates, in Phonology, of vowel lengthening and consonant gemination; in Morphology, of the differential structuration of the vocabulary by morphological vs. lexical derivation and even suppletion within one and the same paradigm; in morphosyntax, the frequent morphologization of the objective relation but not of oblique relations; in Syntax, the semantic incidence of direct vs. indirect rection of verbs as well as of element order (morphemes, words or clauses); in Pragmatics, the correlates at all levels of focalization vs. topicalization and the expression, incidence and Acquisition of space vs. those of time.

Thus, in Semitic prototypical Grammar, the phonological quantitative reinforcement of the second radical seems to correspond essentially, in Diachrony, to a reinforcement at the semantic or syntactic level. In the verbal realm, gemination may express an action carried out with greater intentionality, or implying a more intense result, or a multiple number of times, or involving a bigger number of actants, and in the nominal realm it may express customary rather than occasional activity and even plurality rather than singularity. An increase in vocalic quantity may represent the same phenomena. In Amharic, M. Cohen ([1936] 1970) lists fourteen categories which display such a correlation. The so-called broken plurals should be submitted to such a test as well, the hypothesis being that the short forms are the non-marked ones and represent either the singular of the count nouns or the collective of mass nouns, whereas the long forms represent plurals or singulatives (in Indo-European, reduplication is characteristic not of the present but of the perfect, in other words of the action seen as a globality, which is a kind of plurality, and one may ask if that is a coincidence; moreover, here one and the same morpheme may mark both perfectiveness *and* globality seen as a kind of plurality, *cf. machen-**ge**macht, gehen-**ge**gangen* and *Berg-**Ge**birge, Schwester-**Ge**schwister*). Naturally, there is no point in analysing a quantitatively marked form if it has no unmarked counterpart, for example when there is no simple form vis-à-vis a long or geminate one form of the same root. Secondly, it is essential that diachronic considerations be taken in account. There would be no point in taking the opposition between elements marked by vocalic lengthening or consonantal gemination at their simple synchronic value, since the existence, at a same synchronic state, of elements coming from different diachronic layers is a constant at all levels. That in Germanic some plurals obtain by ablaut while most obtain by

suffixation does not falsify the fact that ablaut in these cases is but a phonetic result of assimilation and suffix-deletion, and that originally the plural was formed by suffixation here too. Diachronic processes affect all levels of language; therefore to deny Iconicity or anything in language on the grounds of synchronic data alone is not sufficient.

The Morphology of Semitic languages is considerably iconic, as it appears from the semantic burden of geminate stems both in the verbal and in the nominal realm and from the so called broken plurals (see above). This alone is enough to refute the neo-Grammarian views. Secondly, the derived verb stems, especially those seldom used or learnt, obtain synchronically by vowel lengthening, but also by the addition of gemination (consonant lengthening, so to speak) and of sonorants. Moreover, not only derived stems in Semitic are iconically shaped: to some extent, this is the case of the lexical-cum-morphological structure considered as the watermark of this language group.

Now the approach presented here refutes Brockelmann's view which is the *communis opinio* to our day.

As for Morphology, it follows that the so-called complete verb traditionally presented as the basic form is in fact the most evolved and far from origin, while the so-called weak, with so-called *infirmae*, represents the original root-form. Halevy-Hurwitz (*1913:* 16) says: 'The tendency to form tri-literal bases strong though it was, could not yet completely dominate the consciousness of people who spoke the living tongue, and the weak elements were mercilessly dropped, not because they were weak but because they were subordinate'. In cognitive, functional, typological and dynamic terms they are not subordinate but secondary, they are not dropped but simply not added, as they are expansions in the first place, and they are not weak but easy to pronounce and natural to express. They have a highly economical (= efficient) ratio of energy / utility.

Before pursuing let us remind that those roots in Semitic which kept the 2-P structure designate fundamental entities such as body-parts and the extension thereof, namely close biological kinship, *cf.* /jåd/ 'hand', /ben/ 'son', etc: this is in itself strongly iconic, since central concepts considered as semantically less composite are construed as being less composite at the morpho-phonological level as well.

An illustration of the intrication of Diachrony in Synchrony is the apparently incongruous behaviour of /ʔɛt̲/ in Biblical Hebrew: a thorough analysis (Kirtchuk 1992) shows that, far from being its only rôle, marking of the definite direct object of the bi- or tri- valent verb is but one of its multiple functions. This apparently messy profusion can be explained only if we understand that originally /ʔɛt̲/ had the pragmatic rôle of focalizer, which as a result of the lost of case endings in Proto-Hebrew ended up grammaticalizing as a mark of definite second actant. In opposition to prototypical first actants of bi-valent verbs, which are syntactically definite and semantically human, prototypical second actants are non-definite and non-human. The first actant is also, pragmatically, part of the topic, whereas the second actant is part of the focus. When a second actant is definite, it adopts a topical property. Therefore it should be marked specifically as focus. That was the original rôle of /ʔɛt̲/, but when case endings disappear due to the attrition of final, post-tonic segments, /ʔɛt̲/ assumes a syntactic rôle too, the one of the part which has the greatest affinity with the focus, namely definite second actant. However, in parallel it continues to fulfill its erstwhile pragmatic rôle: that co-existence of /ʔɛt̲/ as a pragmatic and syntactic mark accounts for its multiple, apparently incoherent functions.

Lets us briefly mention some other examples of iconicity: in languages from quite different families and geographic areas, hypocoristics and diminutives contain a front vowel [i], either as such or in form of a semi-vowel [j] or as a palatalized consonant (other iconic, sometime called expressive mechanisms, are used as well). Fonagy (*Voix*) has shown that front vowels

and especially [i] are associated to smallness, which on the sphere of affects may be interpreted as either endearment or despise, whilst back vowels, especially [u] are associated with huge size, cavernosity and obscurity, which correspond to power, agressivity and threat. The reason is the shape adopted by the buccal channel in order to produce [i] and [u] respectively. The same holds true for [l] in which there is a continuous flow of air as compared with [r], produced by a brutal encounter between organs, which may be simple or multiple. Accordingly, the former in each case is unconsciuosly associated with tenderness and the latter with agressivity. I established an experimental protocol and the test was applied to Hebrew speaking subjects. The results obtained were similar to those obtained by Fonagy with Hungarian and French speaking subjects. True, there are counter-examples as well, but they are few and do not seem to share any common patttern, whereas the overall trend just described does have one. This is **Phono-iconicity.**

Phono-iconicity also accounts for the correlation between intonation (form) and pragmatic function (content); we shall dwell on this point later.

Another example of Iconicity, in Syntax: The order of a string of adjectives in relation to a noun. It has been shown (Posner 1986) and the tests applied to Hebrew confirm it, that in a non-marked clause, namely when there is no pre-eminence attributed to a given adjective with respect to another, that order is not random but follows an iconic pattern: generally-admitted, absolute, concrete and inherent ones are closer to the noun than more arguable, relative, abstract and non-inherent ones. Thus, the colour adjective is immediately attached to the noun, other adjectives referring to static concrete properties such as size or shape may follow that colour adjective, then come the ones referring to dynamic concrete properties such as movement, and only then do abstract, arguable, relative, non-inherent properties appear. That adjectives be post-posed or ante-posed depends on the language analyzed; what matters is the absolute value in terms of distance from the noun. That kind of order is iconic since properties grasped by the senses precede those inferred by an intellectual operation, generally-admitted ones precede more arguable ones, absolute ones precede relative ones and inherent properties precede accidental ones. Moreover, as a rule, only adjectives from the first pole of the continuum may be substantivized. Examples:

1. A new red car = Fr. Une nouvelle voiture rouge = CH [mexonit *ʔ*aduma xadaša]
2. A red new car = Fr. Une voiture rouge neuve (? Une voiture nouvelle rouge) = CH [mexonit xadaša, *ʔ*aduma]
3. She's a tall blonde = Fr. C'est une grande blonde = CH [zot blondinit gvoha]

? She's a blonde tall =? C'est une blonde grande =? [zot gvoha blondinit]

(2) is possible only if the novelty refers to the individual car as an object and not to the fact that it is new for its owner (in which case it could be a new second-hand car). French renders this by 'neuve' (1), and Contemporary Hebrew renders it, like English, by inverting the order of the adjectives - and adding a pause in between! - though they be postponed to the noun, while in English they precede it. What counts is the absolute value in terms of distance from the noun. Fr. *Une voiture nouvelle rouge* is impossible, because colour is more inherent to the car than the fact of having changed hands.

As for (3) and (4), the first one is the only possible one in each of the three languages, because of the motives stated above.

This universal tendency overrides another one, in itself strongly anchored in cognitive and biological reasons: it is the one according to which in any string of elements of equal rôle and equivalent semantic and pragmatic importance, the heaviest element, phonologically speaking, is bound to be in final position while the lightest one is in initial position, the elements in-between being disposed according to their respective phonological weight. Thus,

we perceive a clock's sound as *tic-tac* (with the vowel perceived as inherently short in initial position) and not *tac-tic*, we say *fish, flesh and fowl* (with the shortest element in initial position) and not, say, *fowl, flesh and fish*; &c. The reason for that is simple: the last element in a string is the easiest to grasp, memorize and react to, since it is, by definition, the one closest to the moment in which that reaction is expected, *i.e*. the end of the utterance. On the other hand, the heaviest element in a string is the hardest to grasp, memorize and react to, since it is the most complex one in phonological terms: it contains a longer vowel and/or an additional phoneme and/or an additional syllable and/or a whole additional element. In other words, a heavier element requires more energy not only in order to be uttered, but also in order to be linguistically perceived. And we biological creatures do not dispose of endless sources of energy. If the heaviest element in a string were also in initial position, it would be very difficult to process in terms of comprehension, memory and reaction. Therefore it sounds more aesthetic to say *Paul and Michael*; *red and yellow*; *plums and oranges* rather than *Michael and Paul; yellow and red; oranges and plums*. That the first version be aesthetic is in fact established by our nature as biological beings, and it is linguistically codified as we have just seen, though no grammatical rule actually prescribes such an order.

Contemporary Hebrew provides a striking example of iconicity, in which a different grammatical mechanism, morphological or syntactic (form), is selected on semantic grounds (content). Possession in Colloquial Contemporary Hebrew is expressed by suffixes appended to the particle /šɛl/, whereas in Biblical Hebrew they were suffixed directly to the noun. When Contemporary Hebrew uses this last mechanism, we are no longer in the colloquial register but in a higher one, literary or otherwise. There is, however, one exception to that rule: nouns, whose referents are kith and kin of a very close order,

Noun	Unmarked Poss. 1SG	Marked Poss. 1 SG
[xaber(-a)] 'friend'	[(ha-)xaber(-a) šel-i]	[xaver(-t)-i]
[ʔem] 'mother'	[ʔim-i]	
[ʔima] 'mama'	[(ha-)ʔima šel-i]	
[ʔab] 'father'	[ʔab-i]	
[ʔaba] 'dad'		[(ha-)ʔaba šel-i]
[ʔax(-ot)] 'sibling'	[ʔax-(ot-)i]	[(ha-)ʔax(-ot) šel-i]
[gis(-a)] 'sibling-in-law'	[gis-(at-)i]	[(ha-)gis(a) šel-i]
[xam(-ot)] 'parent-in-law'	[xam-(ot-)i]	[(ha-)xam(-ot) šel-i]
[ben] 'son'	[ha-ben šel-i]	[bn-i]
[bat] 'daughter'	[ha-bat šel-I]	[bit-i]
[dod(-a)] 'uncle/aunt'	[(ha-)dod-(a) šel-i]	[(dod-(at-)i]
[pardes] 'orchard'	[(ha-)pardes šel-i]	[pardes-i]
[telefon] 'telephone'	[ha-telefon šel-i]	

The first item, [xaber(-a)] 'friend' represents the behaviour of the prototypical noun in this respect: in Colloquial Contemporary Hebrew, the unmarked possessive form for the 1SG is analytical, and the marked possessive form is synthetic. For the items meaning 'biological parent', however, only the synthetic form is possible. Both have hypocoristic forms, in which the suffixed /-a/ (erstwhile the Aramaic definite article) excludes the synthetic form, rendering possible only the analytical one on purely grammatical grounds[10]. The words for 'sibling',

[10] The fact that the words meaning 'mother' and 'father' and only they in this group have an affective variant is in itself iconic, of course. Rosén (1957) noticed that when the possessive form of terms denoting kinship or body parts was synthetic it could only refer to a biologically inalienable reality, whilst the analytical form could apply to those terms when used as

'sibling-in-law' and 'parent-in-law' display a likewise inverse behaviour as compared with that of the ptototypical noun: their marked possessive form is analytical, whilst the unmarked one is synthetic[11]. Curiously, for 'son / daughter' the pattern is almost inversed, but not totally: in the unmarked analytical construction, the definite article is obligatory. For 'uncle / aunt' and terms denoting yet looser kinship, the pattern is that of prototypical nouns, though the synthetic form is quite more frequent than for non-kinship terms. This reflects the high degree of coalescence typical of kinship, a degree whose decrease reflects in the grammatical constructions that affect it and their markedness character. The last two items are quoted to illustrate that loanwords are excluded altogether from the synthetic pattern, unless they have been borrowed in pre-Contemporary epochs. This too is iconic, since a recent foreign origin reflects in the impossibility for the word to establish a morphologically synthetic relationship with a genuinely Hebrew element as far as possession is concerned.

In this respect, let us give one more example of iconicity. Language uses spatial terms to refer to temporal entities also: spatial prepositions and spatial verbs often originating in body parts can represent a movement or a position in time as well, but not the other way round. I am actually *facing* my audience (and the word *face* is not a coincidence, see Matsumoto 1999) but I can only infer that I am facing another day. Space is a direct perception, whilst time is an intellectual construct: cognitively speaking, in the couple space-time, time is the marked term. Now if we go back to the corresponding linguistic statement, in language, like in human cognition, time is the marked member in the couple it forms with space: one can say *at this point of time*, but not *at this moment of space; the time axis,* but not *the space clock;* spatial prepositions like *around / until / from* apply to temporal realities like *ten o'clock*. Linguistic elements, which primarily refer to space, can be applied to time as well, whereas the reciprocal does not hold. This also is related to the *concrete > abstract* direction of metaphors (Lakoff & Johnson 1980).

An example of iconicity in the structure of vocabulary: inasmuch as an entity is more central in the language and the culture it carries, it is lexical morphemes that reflect this functional richness. Concepts of crucial importance (culturally or otherwise) show a wealth of roots expressing categorial shifts, while for less central concepts, a change of category is obtained by grammatical means or is altogether unmarked. No doubt, contemporary Evolution - social, technological and otherwise - has an influence on the meaning of many elements. Yet, the lexical and semantic basic structure of Hebrew is founded on that of BH, MH and MdHA, and it is iconic, as one can infer from the names of some animals: donkey is /håmo:r, ʔåṯo:n, ʕajir/, camel is /gåmål, nåʔqå, bɛkɛr/, goat is /tajiš, ʕe:z, g^{e}di:/, sheep is /ʔajil, kibʁå, ṭålɛ/ depending on sex and age - the first term referring to the sex or the male adult, the second referring to the female adult and the third to the young one. Other roots exist as well to express additional distinctions - such as a female about to give birth. Such distinctions are linguistically relevant, to this very day, for species that were of great economic and cultural importance at ancient times, and the same distinctions do not exist for unimportant species: goose is /ʔawwåz/, with only morphological changes to express the feminine and diminutive. In other words, the relative value of Grammar and Lexicon in establishing functional semantic distinctions remains as it was at previous stages of the language.

Conversely, when the concept is less central, its categorial variations are expressed by morphological derivation, by a syntactic adjunct, or not at all, as indeed show the same

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alienable concepts as well. He did not link it to iconicity, let alone to the other phenomena treated in this paper and the approach they induce.

[11] The younger generation sometimes uses the marked form ['ax(-ot) šel-i] in the colloquial register. True, but they only use it in a substandard colloquial, only in the vocative, without the definite article, and when speaking to a very close friend, i.e. a non-biological 'sibling'! Hence, this analytical form is not the syntactic, semantic or pragmatic equivalent of the analytical possessive forms of the prototypical noun. QED.

concepts when expressed in the other linguistic family. It follows that richness of semantic functions is expressed by richness of vocabulary, at the cost of charging memory, while automatic derivation, which demands no effort of memory but just calculus, is reserved for functionally low value oppositions (see also Bybee 1985). This means also that grammatical derivation and lexical creation, *i.e*. Grammar and Lexicon, are two poles of one and the same continuum. I call this **Morpho-iconicity**. This is all the most striking since in this regard, a Semitic language like Hebrew, relatively rich in Morphology and poor in vocabulary, and one like English, with opposite features, behave in a similar way. Iconicity establishes a link between meaning and form. It does not pretend to be the only principle in language.

Let us put it this way: if there were no iconicity, we could pronounce *little* thus: [lɪ:l], with a phonetically long vowel and *large* thus: [lɒ:ɾdʒ], with a short one, or attribute the same length, either long or short, to both. Now it seems that a spontaneous phonetically long vowel in the former is improbable, while it is quite common in the latter, simply because there it reflects large size, and in the first case it does not. Iconicity is an extension of this principle to the construction of the language system itself, as a result of personal manifestations in context, which eventually grammaticalize. *Parole* becomes *langue* through grammaticalization, and since Iconicity is one of the principles that control *Parole*, eventually it ends up controlling *Langue* as well.

It follows that cognitive and functional factors are part and parcel of linguistic reality. Let us now look at some phenomena that find a new explanation if we take them in account.

True, the systematization of Communication that we call Grammar eventually blurs up its iconic element. Here's one explanation of it, which presumably inspired Givón (2002) who considers Grammar as a rapid means of processing information:

'This depends partly on all the signs having commonly had some natural origin; and partly on the practice of the deaf and dumb and of savages to contract their signs as much as possible for the sake of rapidity?[3] *Hence their natural source or origin often becomes doubtful or is completely lost; as is likewise the case with articulate language' (Darwin 1872).*

Be it as it may, grammar is only a means, while intention and meaning - Pragmatics and Semantics - are the aims. A linguistic analysis which would take in account only form - 'I'm not treating meaning, just the morphological rules by which the paradigms fructify' - a colleague whom I used to esteem told me recently - is false, and bound to give false results. To take but one example, the so-called broken plurals in Arabic are sometimes collective nouns from which a singulative is derived: this is the cas of *kutub* 'written [matter]', and its derived element *kita:b* 'a unity of written matter > a book'. Then, by polarization, the non-singulative is reinterpreted as a plural, and so we obtain *kita:b – kutub*. A purely formal analysis fails to see all of this, and states that /kutub/ is a derived 'broken' plural of *kita:b*, which is utterly false, both in synchrony and diachrony. Moreover paradigms are not mechanically complete, as they would if morphological rules operated regardless of meaning (Tournadre forthcoming).

The Interactive / interlocutive nature of language

All linguistic utterances are both (1) uttered by somebody, and (2) meant for somebody (*cf.* Benveniste 1966, I: 242: 'any utterance supposes a speaker and a hearer, and implies that the former wishes to influence the latter in some way', my translation, PK).

Speaking is an action insofar as it involves activity by the speaker, but also insofar as it acts upon the hearer.

Linguistic utterances are therefore actions, more specifically interactions.

A language is extinct if it (1) isn't the vehicle of interactions in real Communication; (2) isn't the mother tongue of a given population; (3) doesn't experience diachronic change resulting from linguistic interactions with and in context. A language is therefore supposed to be extinct if it hasn't got Pragmatics, Ontogeny, Diachrony or Epigeny. The fact for a language to possess or not an elaborate Grammar is of no significance in this respect. This is why Latin, whose Grammar is quite elaborated, is an extinct language.
A language is said to be living if it is (1) a vehicle for interaction in real Communication; (2) a mother tongue of a given population; (3) subject to diachronic change. A language is therefore living if it has Pragmatics, Ontogeny, Epigeny and Diachrony. The fact for such a language to possess an elaborate Grammar or not is of no significance. This is why Creoles, whose Grammar is relatively loose, are living languages, while Esperanto is not.
An endangered language is therefore one whose Pragmatics, Ontogeny, Epigeny and Diachrony are declining to the point of disappearing altogether in a near future. The fact for such a language to possess or not an elaborate Grammar or not is of no significance. This is why Neo-aramaic is an endangered language while Hebrew is not. To the opposite of the speakers of living tongues, who may be monolingual, and of extinct tongues, who by definition are so to speak zero-lingual, the speakers of an endangered language are always bilinguals. It is the shift of certain or all categories of speakers as a function of context, prestige, age, generation, sex and the like from the endangered language to the other that ends up threatening the very existence of the former in favor of the latter. To say it with Maturana & al. (1995):

'As such, language takes place in the relational domain as a manner of living, and not in the brain as a phenomenon of the operational and structural dynamics of the nervous system. The nervous system is, of course, necessary for the generation of the sensory / effector correlations that result on the flow of consensual coordinations of consensual coordinations of behavior that ''languaging'' is. We, human beings, exist as systemic entities in dynamic mutual modulation of our particular bodyhood, the Homo Sapiens sapiens bodyhood, and our particular manner of living, the human manner of living in language. As such, we modern human beings are in bodyhood and behavior the present of a history of coherent changes in bodyhood and behavior in a lineage defined by… living in language'.

Dialogic persons vs. Non-person

Let us examine the following statement: 'All fish have gills except the whale'. Surely enough, any educated person knows that statement to be a tautology, since the whale is not a fish but a mammal. The whale, however, does have in common with fish, besides being an animal, its habitat and its hydrodynamics; yet its reproductive, breeding and breathing systems are those of a mammal. Couldn't we attribute an equal weight to all of those properties and decree that the whale is either a fish or a mammal or both? On the face of it we certainly could, but from the viewpoints of Evolution, Ontogeny, Phylogeny, anatomy and physiology the whale is not a fish but a mammal indeed. Its inherent properties are those of a mammal, while only its accidental and adaptive ones are those of a fish. The same may be said, *mutatis mutandis*, of the so-called 3rd person: a statement like 'All grammatical persons display property X except the 3rd' is as tautological as the one concerning the whale's gills, since what is commonly and mistakenly termed '3rd person' is the entity (be it human or not) not taking part in the speech act as such. Even a sentence like 'Peter enters the room and greets everybody' needs a 1st person to be uttered, either orally or otherwise, and it does not matter if is reported speech to the nth power (Helen says that George declared having heard Margaret pretend Daisy to be certain that Peter had entered the room). Each and every one of those characters, when making their respective statements, is a 1st person. From an orthodox structuralist viewpoint,

the so-called 3rd person commutes with 1st and 2nd, but from the functional, cognitive and above all linguistic and *grammatical viewpoints* as well the only true persons are those who represent speaker and hearer, namely the 1st and 2nd person. Henceforth the so-called 3rd person will be called 'non-person', following Benveniste (1952) who intuited this but did not go to the heart of the matter.

Evidence for this contention is found in each and every realm of linguistic analysis. Morpho-phonologically, the non-person so-called 'pronouns' are in an overwhelming majority of languages either identical or descended from deictic demonstratives which have nothing whatsoever to do with grammatical person as such, and are clearly different from the radical(s) of both the 1st and the 2nd person, which often share one and the same radical. This is in itself illustrative of the common nature of the 1st and 2nd persons as opposed to the non-person. This is the case, for example, in Semitic (1st and 2nd person /ʔan-/, non-person and deictic demonstrative /h-/), in Amerind, e.g. Quechua (1st and 2nd /-qa-/, non-person and deictic /-ay/, &c.). Yet even when 1st and 2nd do not share one and the same radical, they have nothing in common with that of the so-called non-person: this is the situation in Indo-European (1st SG /m-/, 2nd SG /t-/, non-person SG and deictic /i-/, /δ-/, /h-/, /s-/ &c. according to language or language-branch). The non-person can be any noun, nominal or deictic demonstrative, while 1st person and 2nd person are prototypically only and precisely that: *I who speak* and *you who listen.* Most important: in languages with grammatical agreement or in which the actants are indexed in the verb, non-person is very often indexed by a zero mark while the real, dialogic, grammatical persons have a positive explicit mark (save in the imperative, whose subject is a 2nd person by default). Let us look at a Semitic language:

Akkadian:

gašra-ku 'I am strong'	*gašra-ti* 'thou (f) art strong'	*gašir-Ø* 'he is strong'
strong-1SG	strong-2SG.f	strong-np

here's what Cohen (1984: 245) says about it: 'en tant que prédicat d'un sujet de troisième personne, le nom apparaît dépourvu de toute marque explicite; lorsque le sujet est une deuxième ou une première personne, c'est à dire lorsqu'il serait normalement pronominal, c'est sous la forme d'une marque suffixée au nom prédicat (à l'état indéterminé) qui'il est exprimé'. Indeed: a noun's vocation is to be object not subject, focus not topic, which is why after the simplification of a case system, the remaining unique form is descended from the oblique, not from the nominative case. Such is the situation in the Romance languages, for example. Guarani is an excellent example of a language in which utterances with only a focal member are perfectly grammatical, *cf.* /koʔe/ 'morning has broken'. Launey (2000) calls this *omnipredicativity*, but this bleaches the distinction between Pragmatics and Syntax, between Discourse and Grammar: *koʔe* is a pragmatic focus but not a syntactic predicate, because it is not a discursive entity that operates on another discursive entity: It says something about reality, non-discursive reality. This difference is extremely important, because it is analogous to the difference between Deixis and designation, for example, or between Deixis and anaphora. It shows that language is a device meant to communicate - and to some extent a means to create - reality, and not a self contained system which functions within itself.

In ergative languages or in systems with a passive > ergative shift, the non-person has a distinct grammatical behaviour as compared with the 1st and 2nd ones. Pragmatically, the 1st and the 2nd person interchange roles back and forth throughout dialogue, while the non-person may either remain the same or, more commonly, shift to another non-person, then to another one indefinitely, while the 1st and 2nd ones remain stable throughout dialogue though interchanging roles continuously. The 1st and 2nd persons are prototypically human hence endowed with speech – which in this context is a capital property – subjectal, agentive,

topical, determined, marked by specific morphemes (with often several variants in complementary distribution: an autonomous form, a bound form and a sagittal form (me-to-you / you-to-me). The non-person is prototypically non-human, objectal, patientive, focal, undetermined, not marked by specific morphemes but by deictic demonstratives which often have only one grammatical form but on the other hand can be expressed by virtually all the noun forms and demonstratives in the language except those explicitly devoted to 1st and 2nd person. In Silverstein's (1976) animacy hierarchy, what he calls 1st and 2nd *personal pronouns* (and I call *personal deictics*) are higher than what he calls *3rd person pronoun* (*non-person deictic*).

North Eastern Neo-Aramaic (NENA) developed a copula and also split ergativity exhibiting an intesting link between the two, which is correlated to the dialogicn vs. non dialogic person split. The copula is a true verb inasmuch as it is conjugated[12]. Moreover it is conjugated by the same suffixes that serve the same purpose in a finite verb; yet an interesting fact – and a most illustrative one if functional, communicative and cognitive considerations are taken in account – is that the indices for 1st and 2nd person are paradigm I suffixes (erstwhile personal subject indices) while the indices for non-person are paradigm II (erstwhile indirect subject indices suffixed to the preposition /l-/). In other words, there is split-ergativity concerning person too – the subject marker of the copula at the so-called 3rd person is ergative[13]. This, together with other peculiarities concerning the so-called 3rd person in NENA (Hopkins 2002), corroborates my view that the so-called 3rd person is a non-person and that a grammatical paradigm constituted of 3 equal persons supposed to represent speaker, hearer and neither is a typical structural artifact with no anchor in linguistic functional, communicative and cognitive reality.

Here is the paradigm of the copula:

Copula (Hoberman 1989)

		Subjunctive			Perfect	

[12] In this respect, NENA is not radically different from Amharic. Modern Semitic languages may share common features that distinguish them from their classical ancestors. In addition, under the influence of the particular ad-, super- or substrate, many of them have developed specific features, *cf.* in Amharic, under Cushitic influence, the constituent order determiner-determined (M. Cohen 1970), at the opposite of classical Semitic Syntax. All this does not affect the belonging of both NENA and Amharic to the Semitic branch of Afro-Asiatic, for linguistic kinship depends on genealogical not typological grounds (*cf.* Greenberg 1949: 79-83). To quote D. Cohen (1983) in his response to Ullendorf's question 'What is a Semitic Language?' (1958), 'Une langue sémitique est une langue sémitique' (see also, in the same spirit, Goldenberg 1996, Kapeliuk 1996). *Mutatis mutandis*, this also applies to Contemporary Hebrew (CH), a Semitic language despite nonsense proferred here and there according to which it would be of Yiddish and/or Slavic, hence IE, descent. This contention rests on the inclusion of nonlinguistic evidence in establishing linguistic kinship, violating the second principle of linguistic genetic classification (Greenberg 1950: 57-58). One must carefully neglect studying as many tongues as possible, both living and ancient, both Semitic and otherwise, in order to indulge in such fantasies. Hebrew has been reactivated, after two millennia of lethargy, by people who had a thorough knowledge of its older stages as well as a good acquaintance with other Semitic languages, be their own mother-tongues what they might have been. They applied - albeit in order to construct, not to analyze or classify - Greenberg's third and final principle of genetic classification, that of multilateral comparison (1954: 406-408). Thus, present-day Hebrew remains more akin to its older layers and related languages than it would have, had it evolved normally. For the sake of comparison: Hindi, German, English, Swedish and Albanian are all Indo-European despite the first's split-ergativity, the second's different position of the verb depending on the status of the clause, the third's quasi-isolating Morphology, the fourth's tonal system and the fifth's massive borrowings from Turkish, and notwithstanding the many cultural, religious and other differences that separate their speakers.

[13] Surprising as it may seem, copulae may be not only formally ergative but syntactically transitive, *cf. ka:na wa-?axawa:tu:ha* ('[the verb] *be* and its sisters (= parasynonyms)' in Arabic, whose predicative complement is in the accusative (or rather ad-verbal, *cf.* Kirtchuk 1993) case.

	M.	C.	F.	M.	C.	F.
1SG.	(i)-w-in		(i)-w-an	w-in-wa		w-an-wa
2SG.	(i)-w-it		(i)-w-at	w-it-wa		w-at-wa
nop.SG.	(i)-l-e		(i)-l-a	w-e-wa		w-a-wa
1PL.		(i)w-ax			w-ax-wa	
2PL.		(i)w-etun			w-et-wa	
nop.PL.		(i)l-u			w-e-wa	

Examples:

basima	i-w-in			'I am healthy'
healthy	COP -1SG			
a	baxt-u(x)		i-l-a ?	'Is she your wife?'
int	woman-2POSS.SG. M		COP.-NOP.SG.F	
he,	baxt-i		i-l-a	'Yes, she's my wife'
yes	wife-1SG. POSS		COP.- NOP.SG. F	
ha	yala	core	i-l-e	'This child is young'
dc	child	young	COP.- NOP.SG.M	

Now as Hoberman (1989), Heinrichs (2002), Hopkins (2002), Khan (1999, 2002a, 2002b, 2002c, 2007) and Poizat (2008) have shown, in many dialects there is an increasing tendency to specify the patient and give it an autonomous expression outside the verbal complex – especially in the true, *i.e.* dialogic persons - in other words to render the perfect constructions as accusative as their non-perfect counterparts, tending to eliminate ergativity from the system. Another motivation may be the need to restore the patient into its rhematic (focal) role in the perfect too. Indeed, if it is expressed only by a verbal index, clitic and thematic (which is the case in the ergative construction), the patient loses its potential status of an informative novelty, *i.e.* its rhematic status (Kirtchuk 1993, 2004, 2005, 2007).

According to Khan (2002a, 2007), and this is confirmed empirically by my own elicited examples, the split-ergative system is unstable and tends to eliminate the *ptix-* past, the only past tense remaining being the one based on the subjunctive stem *pat(i)x-* with the appropriate TAM prefix. It is a tendency to reaccusativise the system by generalizing to all aspects, tenses and moods the constructions in which the agent is in the nominative and the patient in the oblique. In other words, the construction in *patx-* is eliminating the one in *ptix-*. This tendency is best represented in the dialect of Sena:ya (Iranian Kurdistan), in which 'the preterite *psehle* (≈ *ptixli, PK*) neither takes final objects suffixes [...] nor does it inflect its stem to agree with a third-person object, let alone to indicate a first or second person Sena:ya is so far the only known NENA dialect in which the regular preterite is absolutely resistent to pronominal object marking. Consequently, the object preterite *tem-paseh-le* (≈ *qam-patix-li*) is essential to the functioning of the system' (Heinrichs 2002:141). 'This is due to (1) the greater simplicity of a system with a unique actantial pattern, *i.e.* without split, (2) the fact that in the non-person the construction based on the non-perfect, with indexation of both 1st and 2nd actants, is more explicit than the one based on the perfect, with implicit 2nd *actant* if it is an indefinite non-person.

Estival and Myhill (1988) show that Kham (Tibeto-Burman) has ergative case marking on nominal and non-person deictic agents, but not on 1st and 2nd person deictics; Squamish, formally split-ergative in terms of verb-agreement, has ergative case marking limited to non-person:

'Both the Squamish ergative construction and the Shuswap passive are associated with less topical agents (i.e. agents representing new information and NOP as opposed to 1st and 2nd person)' (ibid., 471).

In Nootka (Trask 1979) if the agent is 1st or 2nd person, it is the subject and the verb is active; if the agent is the non-person and the patient is 1st or 2nd, the patient is the subject and the verb is passive; if both agent and patient are non-person, either may be the subject, the verb is active or passive respectively. In Basque, a direct object is indexed in the verb like an intransitive subject but a few forms differ in having the transitive subject marked thus and the direct verb unmarked. All are forms with non-person direct objects, which makes Trask (*ibid.*) suggest that ergativity in Basque was formerly confined to 1st and 2nd person patients, and later the ergative case-marking was extended to the other transitive subjects. Whenever a language displays split ergativity, the split is often based on tense-aspect criteria. Ergativity is often the re-interpretation of a voice distinction in terms of actantial structure, such that an erstwhile *passive verb + subject in an oblique case (dative, locative, instrumental…)* is re-interpreted diachronically as *active verb + subject in the ergative case*. Which is why synchronically the ergative is often identical or quasi-identical with the instrumental (e.g. in Basque) or the dative (e.g. in Oriental Neo-Aramaic). The fact that split-ergativity relates to the divide between dialogic and non-dialogic persons, is highly significant. Dyirbal, known for its high ergativity ratio, has an ergative Syntax but for 1st & 2nd persons its Morphology is accusative (Dixon 1983)

A corollary of the above is that the same distinction prevails concerning the reduction of referential indetermination. The mechanisms that fulfill this function are specialized in non-person actants, *cf.* Bourdin (1994)

Igbo (Kwa, Niger-Kordofan)

ó	sìrì	nà	yà	byàrà
NOP-SG_{S1}	say,PF	REL	NOP-SG_{S1}	come

'He said he [himself] came'

ó	sìrì	nà	ó	byàrà
NOP.SG_{S1}	say, PF	REL	NOP.SG_{S2}	come

'He said that he (= another person) came'

Mohave (Yuma, Amerind)

nya-isvar-k	i:ma-k	"While singing, he danced"
when-sing-$_{S1 = S2}$	dance-ASP	
nya-isvar-m	i:ma-k	"While he sang , he (another man) danced"
when-sing-$_{S1 \neq S2}$	dance- ASP	

Kaingang (Ge-Pano, Amerind)

ã	ty	ti	ve	ky	tóg	fy
NOP- $_{S1 = S2}$	by	NOP-.SG see	when	NOP.SG	cry	

Upon seeing him he started crying

ti	ty	ti	ve	ky	tóg	fy
NOP $_{S1 \neq S2}$	by	NOP-.SG see	when	NOP.SG	cry	

When he saw him, the latter started crying

I shall therefore reformulate Haiman and Munro's hypothesis (1983) thus: if a language has a SS/DS distinction for the 1st or 2nd person, it has it for the non-person too.

The difference concerns also the parallel between possessor and agent:

Vogul (Perrot 1994)

/juw- ∂m/	come-1SG	'I come'	/kol- ∂m/	house-1SG	'my house'
/juw- Ø/	come- NOP	'he comes'	/kol- e/	house-NOP. POSS	'his house'

According to Perrot, in the verb the NOP is represented by zero, save in the non-singular, whereas in the possessed noun there is reference to both person and number. In the 1st and 2nd, however, there is absolute identity between verb and noun in this respect. On the other hand, only the NOP presents a complete analogy between the marking of the first actant and the possessed noun, cf.

kol-e	'his house'	war-as-te	'he made it'
kol-ag-e	'his 2 houses'	war-s-ag-e	'he made them both'
kol-an-e	'his (> 2) houses'	war-s-an-e	'he made them all'

An analogue situation prevails in comox, in which in NOP SG, possessor and agent are marked likewise.

The fact that in the verbal paradigm very often cross-linguistically true personnal Deixis (1st and 2nd) is explicitly marked while spatial Deixis (so called 3rd person) has no mark other than zero, iconically reflects the fact that language's non marked function is the transmission of deictic *non-reflexive* information, i.e. *Communication*, while the transmission of *reflexive* information, namely *expression*, is its marked function This corroborates the idea that I had developed in my Ph.D. dissertation (Kirtchuk 1993 and 1994) that Deixis is at the origin of language. It is this idea that eventually and hopêfully grew, deepened and ripened into LUIT, or: *Language: a Unified and Integrative Theory* which includes the notions just exposed. This would have been impossible without applying the typological approach.

Incidentally, in the verbal paradigm, personal Deixis (1st and 2nd person) is marked, while spatial Deixis (so-called '3rd person') is unmarked: iconically, it follows that language's unmarked function is transmitting non-reflexive information, i.e. *Communication,* while *expression*, i.e transmitting reflexive information, is its marked function. Deixis is most probably at the phylogenetic origin of the language faculty (Kirtchuk *passim*).

One could argue that, as the personal indices appended to *l-* are integrated to the verbal syntagm along with that preposition, the verbal suffix in Synchrony is a single unite constituted of both elements. Such an analysis, structural *avant la lettre*, would display two pitfalls from the functional-cognitive-typological viewpoint: firstly, it would obliterate the diachronic process whereby the new verbal system of NENA emerged, secondly, it would blur the synchronic functional identity of the *l-* preposition in that paradigm and as the of mark dative/accusative. NENA speakers probably feel that synchronic link, but even if not all of them do, the linguist's job includes shedding light on relations in language, which the native and naïve speaker is not necessarily aware of. The fact that *l-* as a dative/accusative nominal mark may have also a morpho-phonemically larger variant *ʔell-* does not refute my analysis, quite the opposite: the short form *l-* is the unmarked one, and to some extent, in certain pragmatic, semantic and grammatical contexts, it is in complementary distribution with a longer version. Suffice it to think of the complementary distribution of clitic and non-clitic or predicative and non-predicative allomorphs of one and the same morpheme cross-linguistically. The fact that many NENA dialects append the index of the non-person actant to the non-clitic variant, thus isolating it from the verbal complex, also confirms my analysis, inasmuch as the non-person, being distinct from the true linguistic and grammatical ones, i.e.

the dialogic 1st and 2nd persons (Kirtchuk 2007), is distinct in this connexion too. In other words, the fact that in the 1st and 2nd persons the form the preposition *l-* is at its unmarked form whilst at the non-person it is at the marked one only proves that both forms represent one and the same morpheme.
The essential difference between on one hand the 1st and 2nd persons, on the other hand the non-person is as old as language itself. It follows from evolutionary and functional reasons, *i.e.* from the essentially communicating (interactive) nature of the former as opposed to the essentially communicated (interacted) nature of the latter.

Grammaticalization: Emergence of the Verb Category

Verb as such is by no means an essential category of Grammar, let alone of language.

Indeed, to the opposite of what is maintained in all theoretical frameworks either implicitly (*e.g.* by Greenberg, who labels the main syntactic functions S[ubject], O[bject], V[erb]) or explicitly (*e.g.* by Chomsky, who parses the S(entence) into N[oun]P[hrase] and V[erb]P[hrase]), the *Verb* is not universal synchronically and is recent in Diachrony, Ontogeny and Phylogeny. Moreover, even in languages where it is a clearly distinct part of speech, it is a complex, second-order part of Discourse since it is a nexus (Jespersen 1924) of an actant and a lexical base, a nexus whose morphological expression may vary from one language to another. The English term for 'actant' is argument, but for reasosns that are not only historical or terminological I shall stick to the term coined by Tesnière. Had modern linguistics not been created by native-speakers of standard-average-european tongues, Whorf's famous SAE, the verb as such would have been mentioned merely as one of the possible realizations of the predicative relation, which is nothing but the grammaticalization of a topic-focus pragmatic relation. Let us look again at Akkadian (East-Semitic), which shows the emergence of a prototypical characteristic of Semitic Morphology - prefixed verbs, here for the preterite tense - out of the coalescence of a topical personal deictic and a focal nominal stem:

Akkadian:

a-prus 'I cut'	ta-prus 'thou cut'	i-prus 'he cut'
1SG-cut	2SG.F-cut	NOP-cut

The topic-focus relation, first expressed by pragmatic and phonological means, grammaticalized to a predicative relation, expressed by a frozen term-order which ended up morphologizing into a new predicative part of speech called 'verb' (a thorough analysis is to be found *ap*. Cohen 1984; see also Testen 2004).

In Indo-European too verbal personal indices can be shown to reflect erstwhile autonomous ones, topical or focal (Bopp 1816, &c.). This is the diachronic process at the basis of the synchronic verbal category cross-linguistically. Different languages may be situated at different stages of the process, with or without morphologization, with or without sandhi, with or without freezing of constituent-order: we may have verbal conjugation (with or without amalgame) as in most Semitic and Indo-European languages, agglutinated marks like in Turkish or Modern French, personal deictics like in English or Bambara, personal indexes appended to an adposition which is itself affixed to a lexical basis like in North-Eastern Neo-Aramaic, &c. It is important to stress that there are cross-linguistically more and simpler ways to mark the predicative relation even in languages which possess *verb* as such, among others copula, differential determination, word-order and above all rhythm.

Biblical Hebrew

/w^{e}-ha-na'ar na'ar/ 'and the boy [was but] a boy' (Sam. I 1, 24)
/and-DEF-boy boy/

/ha-mišpåT l^{e}-ʔ^{e}lohi:m hu/ 'Judgment is up to God' (Dt. 1, 17)
DEF-judgmentto-God NOP

It is a prosodic, *i.e.* phonological process – the cliticisation of the communicatively less important component, the thematic personal deictic, that yields syntactic freezing and eventually morphological coalescence.

Semitic as a whole illustrates the process whereby grammaticalized templates emerge: Bohas (1997) and independently, on different arguments, Kirtchuk (2004b) show the Semitic root to be bi-phonemic and not tri-phonemic to begin with, so that by no means can the verb in this language-family have pre-existed as a category either to the root, to the morphological schemes or to other parts of Discourse. *Mutatis mutandis*, this statement is valid for language as such. Among the very few categories mistakenly considered as indispensable and universal, the verbal one is the last to emerge, many millenaries after the *Homo Sapiens sapiens* endowed himself with the language faculty and many months after the *Homo Sapiens sapiens* infants enable that faculty in their own system. As Barner and Bale (2002) put it 'dividing the Lexicon into categories such as noun and verb offers no descriptive edge and adds unnecessary complexity to both the theory of Grammar and language Acquisition'.

Moreover while prototypical verbs are active, transitive and perfective, many real utterances in real language are none of those and whether they be grammatical sentences or not, they do not contain real verbs. Intransitivity appears to be not only more frequent but also more ancient than transitivity; in ergative languages too: Nichols (1982, 457-8) calls Ingush 'fundamentally intransitive… the verbal morphosyntax appears to be geared for accepting intransitives as input rather than for producing them as output…. Even the underived transitives… include many… which can also function as intransitives' (see also Hagège 2002). Verbs with zero valency (so-called impersonal, *cf.* atmospheric verbs in some IE languages) illustrate the fact that what really counts here is predication and not transitivity: an actant, be it zero, is necessary to constitute a verb. The link in many languages, either in Synchrony or in Diachrony, between agent and possessor, also supports this claim, *cf.*

Vogul (Perrot 1994)
/juw- ∂m/ come-1SG, 'I come' /kol- ∂m/ house-1SG 'my house'

That the copula, which marks that a nominal or a deictic has a predicative role, can be construed as a verb is merely a grammatical trick played by certain languages in order to confer to their Grammar a higher degree of uniformity – to have a single canonic model of the sentence, thus reeducing even more te entropy characteristics of Pragmatics - and to allow for the absence of an actant (since it can be represented in the copula).

Aramaic: Biblical				**Babylonian**	
(PF. stem)		ktb 'write'			
	M.	F.		M.	F.
1SG	kitb-et			ktab-it	
2SG	ktab-ta	?		ktab-t(a)	?
NOP.SG ktab-Ø	kitb-at	ktab-Ø		katab-at	
1pl	ktab-na			ktab-nan	
2pl	ktab-tun	?		ktab-tu	?
NOP.pl ktab-u		ktab-a		katb-u	katab-a

Nort-Eastern Neo Aramaic: (NENA, Hoberman 1989):

(J stem)	xzy 'see'		(Pf stem)	
	M.	F.	M.	F.
1SG	xazi-n	xazya-n	xzi-l-i	
2SG	xazi-t	xazya-t	xzi-l-uk	xzi-l-ak
NOP.SG	xazi-Ø	xazya-Ø	xzi-l-e	xzi-l-a
1pl	xaz-ax		xzi-l-an	
2pl	xaze-tun		xzi-l-okun	
NOP.pl	xazi-Ø		xzi-l-un	

Copula

	M.	C.	F.
1 SG.	hawi-n		(hawya >) hoya-n
2SG	hawi-t		(hawya >) hoya-t
NOP.SG.	hawi-Ø		(hawya >) hoya-Ø
1PL.		haw(i)-ax	
2PL.		hawi-tun	
NOP.PL.		hawi-Ø	

Save for Indo-European ears, a sentence like 'This is a table and that is a chair' is not more verbal than 'Like father, like son' or 'How wonderful!' or 'Me Tarzan, you Jane' (ungrammatical in English, perfectly formed in many other languages).

As far as Ontogeny (Acquisition) is concerned, Gentner (1982) shows verbs to be more difficult to learn than nouns although they are – from a grammatical viewpoint - 'the architectural centre-piece of the sentence' as Parish, Hirsh-Pasek & Golinkoff (2006) put it when referring to this as 'the unique word-learning problem verbs present'. What we have seen so far solves this apparent paradox or 'bootstrapping problem' as Barner and Bale (*op. cit.*) call it: verbs are more difficult to learn in Ontogeny because they are later to appear in Phylogeny, and they are later to appear in Phylogeny as they are the output, not the input, of a grammaticalization process; they are composite and second-order both conceptually and constitutively. As for Synchrony and Diachrony, verbs appear later in Diachrony (keep in mind Akkadian) because they are constructs in Synchrony, and not indispensable ones for that matter. A verb is a sentence: is there anything amazing about the fact that children acquire words before they acquire sentences? And yet there is more to it than just Morphology as compared to Syntax, or of Grammar as compared to Lexicon. The real distinction is between Grammar and Pragmatics: Grammar as a whole is an output, not an input, and at the basis of language there are pragmatic, not syntactic relations; iconic and not symbolic devices; context-dependent, not context-independent utterances; biological, not logical factors, and communicative, not conceptual needs. This is why Deixis is probably at the origin of the language faculty (Kirtchuk 1993, 1994, Kimura 1979). It is not Grammar that children acquire first but Pragmatics, which is why they can and indeed must wait until the very advanced ages (as far as Ontogeny is concerned) of about 3 years old in order to fully master regular verbal paradigms. Until then the child does not communicate with grammatical sentences but with pragmatic utterances, which is why the fact that in certain languages the verb is a cornerstone of the sentence simply does not matter as far as Communication is concerned and is a very complex task as far as Grammar is concerned. Once we grasp, first, that the verb is a grammatically composite unit and, second, that Grammar for all its importance is a secondary factor in the constitution and function of language at all levels while the really central factor is interaction – in other words that language is not grammatocentric but pragmatocentric, in the same way that our astronomical system is not geocentric but heliocentric - we wonder no more at the fact that a grammatically complex construct like the verb is ontogenetically of later appearance than simple constituents. Incidentally, this argument too, like so many others, falsifies generative Grammar.

The character of the verb as the result of the grammaticalization of a predicative relation, *i. e.* as the output of a process, leads us to ask ourselves about the input. In other words, to examine the pre-grammatical and para-grammatical relations that may – or may not – give birth to grammatical templates. And to see how both levels – grammatical structure and information structure, *i.e*. Grammar and Pragmatics – interact, what are the devices they usually apply to, and which is the one that prevails if they enter in conflict. In order to do this,, let us examine the status of the different actants in the verbal nexus, the 1st, 2nd and so-called 3rd persons.

The fact that in the verbal paradigm very often cross-linguistically true personnal Deixis (1st and 2nd) is explicitly marked while spatial Deixis (so called 3rd person) has no mark other than zero, iconically reflects the fact that language's non marked function is the transmission of deictic *non-reflexive* information, i.e. *Communication*, while the transmission of *reflexive* information, namely *expression*, is its marked function This corroborates the idea that I had developed in my PhD dissertation (Kirtchuk 1993 and 1994) that Deixis is at the origin of language. It is this idea that eventually and hopefully grew, deepened and ripened into LUIT, *Language: a Unified and Integrative Theory* which includes the notions I am exposing.

Now verbal paradigms and their Evolution may reveal more than one is bound to expect.

On the Verb in North-Eastern Neo-Aramaic

As we have seen above, in NENA the split-ergative system is unstable and tends to eliminate the *ptix-* past, the only past tense remaining being the one based on the subjunctive stem *patx-* with the appropriate TAM prefix. It is a tendency to reaccusativise the system by generalizing to all aspects, tenses and moods the constructions in which the agent is in the nominative and the patient in the oblique. In other words, the construction in *patx-* is eliminating the one in *ptix-*. Consequently, in the dialect of Sena:ya (Iranian Kurdistan), the object preterite *tem-paseh-le* (≈ *qam-patix-li*) 'is essential to the functioning of the system' (Heinrichs 2002:141). This is due to (1) the greater simplicity of a system with a unique actantial pattern, *i.e.* without split, (2) the fact that in the non-person the construction based on the non-perfect, with indexation of both 1st and 2nd actants, is more explicit than the one based on the perfect, with implicit 2nd *actant* if it is an indefinite non-person.

These are important elements when we are about to classify certain verbal constructions in NENA as ergative. The pronominal agent of a transitive verb, in the perfect aspect and in a culturally homogenous group of dialects, is indexed by an oblique personal suffix appended to the dative preposition /*l-*/, the result itself being appended to the perfecto-passive participle. However, in literary NENA the nominal agent also may be appended to the dative /*l-*/ , *cf.* /*l-ʔ*alaha hiw-a la-lew/: ' [DAT-God given,PCP-F DAT-NOP.SG.M >] God gave her to him'. When the patient is construed by /*l-*/ (accusative construction) it is post-verbal, whereas the nominal agent introduced by /l-/ is pre-verbal, so that there is no ambiguity whatsoever, *cf.* the NENA translation to Gn. 1,1: /breʔšit bri-leh ʔalaha lšmaja u l-ʔarʕa/', lit. 'at the beginning, created God the Sky and the Earth'. Even assuming that the verb in the singular can refer to the element /šmaja/ 'sky', it is impossible to understand this sentence as 'At the beginning, the Sky and the Earth created God', on account of word order. Unmarked word order in NENA is SVO, with split-ergativity, whereas earlier stages of Aramaic, an accusative language, had the the VSO word order typical of Classical Semitic languages. This shift in word order corresponds perfectly to the typologically attested tedency according to which when a

language changes its actantial patterns from accusative to (split-)ergative, word order changes accordingly[14].

Contemporary NENA dialects do not construct the epexegetic agent with /l-/ if it is nominal. This reluctance may reflect the tendency to re-accusativization: even in the pf., the /l-/ construction is restrained to the pronominal agent.

An interesting point is the existence of several constructions of the perfect participle, cf;

ptixa, Stative-(Perfective-)Passive TRANSITIVE (Poizat 2008)

gu	do	midbar	xa	binjan-le	biny-a
in	DC	desert	a	building-COP.M.SG	build, PCP-NOM.

In this desert, there was one building [that was] built

šqil-li	xa sako aval	ki-xaz-in		i-le	lviš-ta
take,PF-l-1SG.	a coat, F but	ki-see,SBJN-AG.1SG.M.	COP -l-NOP.SG.m		wear, PCP-F-NOM.

'I've taken a coat, but I see it's worn up'

ptixa, Stative(-Perfective-Passive) INTRANSITIVE (Polotsky 1979)

pši-l-e	cim-a	'He remained fasting'
stay,PF-l- NOP.SG.M	fast, PCP-NOM.	

The following examples will show the supposed ambiguity of this participle:

qṭila	i-l-e	min	kalba	'He has been killed by the dog'
kill, PCP	COP- NOP.SG.M	from	dog	

The perfect participle can also describe the agent as having done the action. In these cases the participle is a resultative and stative perfect: ('I am in the state of having done'), *cf.*

qṭila	i-l-e	kalba	'He killed the dog'
kill, PCP	COP-NOP.SG. M	dog	

In Jastrow (1988), Goldenberg (1993), &c. the suffixal paradigm II is called 'possessive'. This comfortable and apparently innocuous term is problematic and rather than explaining Diachrony, it seems to blur it altogether.

Indeed, the */l-/* is the pan-semitic directive (allative) preposition which understandably enough assumes the function of the dative, thus confirming Lakoff and Johnson (1980) and Langacker (1987), about grammatical relations being metaphors of spatial ones. Later, in certain languages, including among others Aramaic and Mishnaic Hebrew, it assumed, in certain conditions, the role of the accusative too. Now quite naturally, in the absence of a dative verb, the dative function (be its grammatical manifestation what it may: case ending, pre-, post-, or circumposition, &c.) indicates attributed existence, which can be semantically interpreted as possession, *cf.* Cl. Lat. *domus **mihi** est*, Fr. *la maison est **à** moi*.

As for the personal suffixes appended to this dative */l-/*, they are nothing but the syntactically dependent, morphologically bound forms of the personal deictics, and as such they may be appended to any noun, noun-originated preposition or verb. Nothing in the */l-/* suffixes of paradigm II in NENA allows to treat them as *possessive* – not the */l-/*, not the personal suffix and not the sum of both. Kutscher (1964), inspired in Benveniste (1952), considers this construction as a calque from the Old Persian construction *mana: kartam*, but

[14] I thank Denis Creissels for having called my attention upon this change as well as upon the importance of the construction of the nominal agents with /l-/ (which in NENA is rare).

then *mana:* is as much the dative of OP *adam* 'I' as its genitive. It is more appropriate to claim that the OP construction *mana: kartam* and its Aramaic counterpart imply a dative/agentive (i.e. a spatial/grammatical) attribution, *cf.* Fr. *tué à l'ennemi,* that can be interpreted as possession, *cf.* Fr. *la fontaine au roi*, rather than possession as such (*i.e*. a purely semantic interpretation of a grammatical relation).

In the verbal realm, a similar kind of attribution by the dative is current with verbs of perception, feeling, reflexion and the like - for *rʔy* 'see' and *ħšb* 'consider' *cf.* in BH Lev. 14, 35 and Gn. 31, 15 respectively (*cf.* also Goldenberg 1991: 175 *in fine)* - as it is outside of Semitic too, *cf. mihi placet, gefällt mir, il me semble, it seems to me, methinks.* In all of those cases the construction is pragmatically motivated, *i.e.* the human referent of the oblique personal deictic is given by the context and as such it is dispensable with. In Aramaic itself the first instances of the *mana: kartam* construction occur with the verbs of perception *šmʕ* 'hear' and *xzy* 'see'. It would be instructive albeit beyond the scope of this article to check whether in OP that construction really began with a verb as prototypically transitive as *kar* or with verbs of perception, stative verbs and the like.

In the light of this, Kutscher's formula (1964: 125) '*mana:* is genitive/dative of *adam* 'I' and equals the Aramaic *li:*, *kartam* is a passive participle' which is the *communis opinio* to our day as far as the diachronic origin of the perfect construction in Aramaic is concerned seems inaccurate in two crucial points: firstly, Aramaic *li:* is not the exact equivalent of OP *mana:* since the former is only dative and not genitive[15] to begin with, whereas in OP it is both, moreover one does not see why in OP itself the genitive function should prevail over the dative either diachronically or synchronically; secondly, *kar-ta(m)* – as all IE participles in /-ta/, *cf.* Macdonell ([1916] 1981) - is as much a *perfect* as it is a *passive*. Here again, one does not see why the latter should prevail over the former either diachronically or synchronically. In both cases, it is the opposite that seems to be the case. Cardona (1970) seems to be inaccurate, then, when stating that 'the Old Persian data require that *mana krtam* be classed as a passive construction'. He is right, however, when he adds 'the construction Iran. *mana krtam*, Ind. *mama krtam* arose through contact between nominal and verbal syntactic patterns as a variant of an older Indo-Iranian construction in which agent was denoted by an instrumental nominal form'. While unaware of it, Cardona could be pointing at the source of ergativity as such. Bynon (2005) claims, *contra* Cardona, that in Indo-Iranian the instrumental replaced a genitive and that the ergative construction was originally anticausative and evidential. In fact, this is close to the passive interpretation inasmuch as both passivization and evidentiality allow for a diminution of the information known and/or disclosed[16] and of the speaker's personal responsibility respectively. Besides, *passive, evidential* and *possessive* may participate in one and the same construction. Which means that her interpretation is self-consistent, not that it is necessarily correct. Indeed, the opposition *Ich habe den Krug zerbrochen / Mir ist der Krug zerbrochen* that she cites (*ibid*.) in order to show the difference between intentional and unintentional action is also an excellent illustration of the *dative*, not genitive character of the construction.Yet as soon as we grasp that (1) the genitive function is a specialization (or, rather, a stabilization) of the dative one, which in turn is nothing but an

[15] In Semitic, the genuinely genitive function is expressed by morphosyntactic and phonological means, in the construction known as ʔiDa:fa (*ʔi*aqiqiyya) or *satus constructus*, a noun phrase in which a nominal term qualifies another nominal term immediately preceding it, which in certain circumstances is truncated. The constructions bears only one phonological stress; if definite, only the second term bears the definiteness morpheme, while congruence with elements external to the noun-phrase is only with the first term. Thus, Bibl. Heb. often refers to king David as 'ben yišay', PL. b^{e}ney yišay 'son[s]-of yišay', while /ben l^{e}-yišay/, litt. 'son DAT.-Y.' means 'a son to Y.', i.e. - in the absence of a dative verb or a coming-to-being verb - 'one of Y.'s sons', and - in the presence of such - 'a son to Y. [was given, born, &c.]'

[16] Which is why the Arab Grammarians call the passif /maǧhu:l/, *i.e.* '[agent] ignored'.

application of the directive-spatial relation, and that (2) possession is nothing but attributed existence, it becomes clear that Bynon's interpretation does not contradict Cardona's but completes it. The prototypical ergative construction would be: *patient-oriented, patient-topicalized, non-animated syntactic subject, non-finite and non-dynamic verb, oblique agent*. The emergence of ergativity in many languages seems to comfort this view (*e.g.* amerind Katukina, Queixalós pers. comm.). Aramaic, at any rate, followed such a path inasmuch as it displays contact between nominal and verbal patterns, and, in the perfect, an agent being denoted by an oblique personal form.

It will be noted that while compatibilizing and corroborating Cardona's and Bynon's explanations, I do not adhere to the their implied contention according to which ergativity (1) is diachronically posterior to accusativity; (2) results from the deverbalisation of verbal structures; (3) results from the passivization of active structures. Such an interpretation would imply that *verb* is prior to *noun* and that *active* is prior to *passive*, in other words that *transitivity* and *voice* are central categories, which have been there from the very start. This is clearly not the case.

Indeed, the implication of the aforementioned considerations is that what is currently called *passive participle* in Aramaic is perfect rather than passive[17]; that it only assumed the passive value secondarily, in order to permit the omission of the agent and let another *actant* play the subject role instead. This implies in turn that diachronically, transitivity itself is a later development. When verbs were only intransitive syntactically speaking – in other words when verbs still were nothing but lexemes with agglutinated person indices whose sum consituted a predicative nexus (*cf.* the Akkadian permansive; *cf.* also D. Cohen 1975, 1984) - there was no diathesis opposition but an aspect opposition only. It is with the emergence of transitivity as a grammatical category that the perfect participle assumed also, in certain circumstances, the role of passive while the non-perfect one assumed that of active. It is this state of affairs that NENA seems to reflect. This is the true explanation for the paradoxical statement according to which in Aramaic the so-called 'passive' participle may have 'an active meaning', a rather incoherent formulation found in many an author who dwells on the subject, *cf.* Kutscher (1964: 135) 'the passive participle used with an active meaning'; Gutman (2008) does not really innovate since he is as attached as his predecessors to an *either-or* solution which presupposes voice as a given category. Mistakenly, as it were. Li (2008) seems to be troubled by this state of affairs, as it is apparent from his rather awkward wording when suggesting that 'Aramaic appears to have two forms to express the passive of the active participle. That is, not only do the active stems possess both an active and a passive participle, but the t-stems, which can express the passive voice, also possess a participle...'. Yet he begins to have an insight as he suggests that

'at the diachronic stage of the language attested in the Aramaic of Daniel, the so-called passive participle is primarily a verbal adjective that is developing into a resultative participle, whereas t-stem participles are the true passive (and reflexive) counterparts to the active participle.'.

Let us have it properly formulated: there is indeed a link between aspect and voice, but

[17] Goldenberg (1989) is a profound study of the affinity between *perfect* and *passive*. It is therefore all the more surprising that GG should consider the paradigm II suffixes as 'possessive' (Goldenberg 2002). This is probably due to the fact that his analysis remains structural and synchronic (functional-cognitive and diachronic-dynamic factors are not really taken into account). Accordingly, he rejects the ergative interpretation of the construction with paradigm II suffixes in the perfect aspect (personal correspondence). Hopkins (2002), who accepts this interpretation, terms the perfect participle not *passive* but *past/passive*, which is, undoubtedly, a step in the right direction. Yet it fails to account for the so-called 'active' uses of this participle, which are neither passive nor limited to the past. Again, the term *perfect* and the process it implies (aspect > diathesis) seems the most adequate.

aspect comes first. If the so-called 'active participle' needs the *t-* stem to form its passive / reflexive counterpart, then this so-called 'active participle' is by no means active, in other words it has nothing to do with diathesis. It is simply a non-perfect, while the so-called 'passive participle' is the perfect ('resultative') one. If we assume that the participle in question is not passive to begin with but perfective and as such it can serve as an *active* (of intransitive verbs but also of transitive verbs when it is the state of the agent as having accomplished the action that is described, and not the state of the patient as having been its object) and/or as a *passive* (of transitive verbs, when it is the state of the patient that is described), the paradox is resolved. If instances such as (Western Aramaic) *šmiʕa ʔan* mean either 'I have heard' or 'I am heard' according to the context and without contradiction, it is because the participle *šmiʕa* is, in itself, neuter as far as diathesis is concerned. The same holds for the equivalent ergative forms in NENA. Note that Eng. *finished, done* and the like behave in an analogous way, and for the very same reason: *I am done / finished [with this paper]* describes the state of the agent, not of the patient, under the condition that there be detransitivisation of the verb (indeed the patient is non-obligatory and not even implied; if present, it is demoted and construed as an oblique complement); if the verb is used as transitive, then the auxiliary must be *have* and not *be*: *I have done / finished this paper*. If on the other hand the participle describes the patient, the latter must be the participle's subject: *this paper is done / finished.* Instead of pretending that in the first of the three instances *done* and *finished* are 'passives used actively' (?) we should understand that those participles are nothing but perfects whose application differs according to the different constructions. This is not limited to English or to specific verbs, *cf.* in Spanish *haber* ≠ *ser / estar* + *leído, entendido, bebido*, &c. Only thus do we avoid contradiction and obtain a *perfectly* articulated system. The different uses produce no ambiguity whatsoever, since linguistic as well as extralinguistic context allow to give the identical forms the relevant interpretation. Ambiguity rests more often than not within the peculiar way in which both linguists and otherwise outstandingly competent specialists influenced by linguistic methods analyze language, as if it were independent of both co-text and context (in the field of NENA, *cf.* respectively Hopkins 2002: 286 'Since the preterite and the perfect are based upon old passive participles, [they] are diathetically ambiguous...' and Poizat 2008: 105). The fact that speakers-hearers use those forms without impediment for fluent Communication, moreover that speakers-hearers favoured the emergence of those clearly distinct uses of identical forms, show that there is no ambiguity whatsoever (except if it is voluntary, *e.g*. for a ludicrous purpose). If the forms are identical - but not the constructions in which they appear, nor the uses they serve; if in other words Morphology is identical, but Syntax and Pragmatics are not, it is because essentially those forms share one and the same function whose application varies. The element to which this essentially identical form and function applies in each case is determined by construction and use, namely by Syntax and by Pragmatics.

Besides, if the paradigm II suffixes are termed 'possessive', then what we are dealing with synchronically are nouns and not verbs. That was Nöldeke's opinion alright, but it is undefendable on syntactic grounds. What we have here synchronically are predicative conjugated forms, in other words *verbs,* whose subject is in the dative, and not noun phrases of the type *possessum-possessor*. In this respect NENA agrees with the classical Semitic (and general, *cf.* Kirtchuk 2007b) procedure of creating verbs as a morphological category, which is the additon of personal elements to lexical elements, with phonological cliticization and often morphological truncation of the personal element, *cf.* Akk. *a[naku]* 'I' + *prus* 'cut' = *aprus 'I cut'* , Ar. *[ʔan]ta* 'thou' + *ktab* 'write' = *taktab [taktub]* 'thou write'; Gk μαχο–μαι 'might + I = 'I mighty > I fight', Guaraní xe-henda 'I + look = I look'...). It differs from the classical Semitic procedure inasmuch as a preposition separates both kinds of

elements. This is all the more clear when one recalls that one of the characteristics of NENA is the elimination of noun phrases as such: for a nominal to be predicative, it requires the presence of a copula.

The fact that in NENA a possessive construction developed which includes the existential partcle *ʔit* plus /*l*-/ plus personal endings is not sufficient to consider the sum of *l-* + *personal ending* as being possessive in itself: it is the whole complex *e.g. ʔitli* 'there is + to + me' = 'I have' that expresses possession. Moreover the verbal construction developed way before the possessive verb did: the first instances of *šmiʕli, xzili* are from the fifth century B.C.E., a period in which possession in these languages is still expressed as attributed existence (*cf. inter alia* Joüon 1923). It would be anachronic, then, to suppose that the verbal construction with /*l*-/ is of possessive origin.

Finally, typology supports the dative rather than possessive interpretation of the paradigm II suffixes inasmuch as in many languages with ergative or split-ergative constructions, the ergative morpheme harkens back diachronically or is identical synchronically with the dative, instrumental, ablative &c. - not with an originally genitive morpheme as such.

As it is often the case with dynamic and functional explanations, they shed new light on synchronic data which may otherwise seem contradictory, ambiguous and obscure.

Zero marking: implications

As a general rule, LUIT will not take zero for an answer, but for a question: why is this mark characteristic of category X or function Y and not of category X' or function Y'? Whilst all other linguistic, nay, grammatical theories) ask how, LUIT asks why. And LUIT being of biological cut, it does have the utmost importance that some categories or functions imply an input of time and/or energy whereas others imply none. That some animals have cold blood (their body temperature is the environment's) and devote no energy to warm-up whereas others do, and thus keep a constant body-temperature; that among the latter some hibernate, thus diminishing to the strict minimum the energy devoted to keep their body warm, while others do not, all that is by no means without consequences. Likewise, when a universal tendency is discovered by which languages tend to devote no time or energy to mark specific categories or functions to the exclusion of others, it is not meaningless, nor is the nature of the categories and functions themselves. As a general rule, in the framework of LUIT it is important to distinguish between default and non-default marking, and naturally, a default marking may teach us a lot more than a non-default marking of a given category or function. To some extent, non-default marking corresponds to perturbations and to a reduction of entropy. The fact that cross-linguistically, in a vast majority of cases, in other words with a lot more than chance distribution, zero marks more often than not present tense, masculine gender, indicative mood, affirmative mode, non-person, independent clause, is highly significative.

The Biological nature of language

Here is what Kimura (1979: 208) says:

'The skilled manual acts that are necessary for using and making tools require the asymmetric use of the two arms, and in modern man this asymmetry is systematic. One hand, usually the left, acts as the stable balancing hand; the other, the right, acts as the moving hand in such acts as chopping, for example then only one hand is needed, it is generally the right that is used. It is not too far-fetched to suppose that cerebral symmetry of

function developed in conjunction with the asymmetric activity of the two limbs during tool use, the left hemisphere … becoming the hemisphere that specialized for precise limb positioning. When a gestural system (for language) was employed, therefore it would presumably also be controlled from the left hemisphere. If speech were indeed a later development, it would be reasonable to suppose that it would also come under the direction of the hemisphere already well developed for precise motor control'

According to Lieberman (1991: 74):

'Australopithecines may resemble present-day chimpanzees in this respect; they may not have been able to produce vocalizations that were decontextualized from gestural displays. Therefore, gestures may have been the primary mode for australopithecine referential Communication. The first major changes from the nonhuman vocal tract that characterizes all other terrestrial mammals occurs in Homo erectus. The fossils that typify Homo erectus have larger brains than australopithecines'.

In other words, Pragmatics precedes the language faculty expressed through Discourse, which in turn precedes Grammar.

Let us look at some more quotations.

Le langage, c'est assurément pour communiquer, et la parole, cela porte alors de la signification, de la signification conceptuelle, mais la poésie, c'est pour rendre aux mots - dont cet emploi conceptuel prive qui s'y prête d'avoir plein rapport aux choses, disons l'arbre en toutes ses branches, toutes ses feuilles, et en sa place ici, maintenant, à ce détour du chemin - cette capacité de susciter des présences que la signification, et sa pensée, abolissent. Et que fait-elle, alors, la poésie ? Elle tente de réveiller ces présences dormantes sous les concepts, ce qui nous rend présents à nous-mêmes, qui alors ne sommes plus dans l'espace de la matière mais dans un lieu, elle substitue ce lieu au dehors du monde, elle fait de ce dehors une terre. La poésie n'est pas un dire, mais un déblaiement, une instauration. En cela le même silence que dans le maçon d'autrefois qui triait les pierres, les soupesait, les rapprochait les unes des autres dans la courbe du mur s'orientant vers la clef de voûte. (Yves Bonnefoy: "L'inachèvement est ce qui caractérise la poésie", interview par Philippe Delaroche et Baptiste Liger (Lire), L'Express, 22/11/2010)

'At least in principle one cannot constrain a pragmatic framing system from automatic recursive self-extension. Once an organism has framed an 'external' world, it has gained the capacity to frame its own framing mechanism. Cognition … can never be shut up once it has been opened … Biological organisms are more likely to have some selectional adaptive mechanisms that constrain the proLiferation of metaframes and the attendant complexity above a certain, upper bound, but perhaps not below that bound' (Givón COM 119).

'The mere fact that human language has dedicated code-units – the phonological words – that automatically activate conceptual nodes in semantic memory makes these units, as well as they mental referents; akin to external objects of perception. That is, phonological words are themselves available to conscious attention… lexical concepts, including those with purely mental referents ('see, want, know ') can thus persist under the scope of conscious attention as if they were external objects of sensory perception. And this, in turn, may contribute to extend our consciousness to mental predicates, both to those referring to one's own mind and, eventually, to those referring to other minds. Specific grammatical constructions are… highly automated and sub-conscious, and by all available accounts also a relatively recent evolutionary addition' (Bickerton 1981, 1990; Li 2002; Givón 1979a, 2002).

'The phylogenetic recency and high automaticity of human Grammar means… that the streamlining and automation of this capacity is recent and human-specific'. (T. Givón COM 121).

'Even with a well-coded Lexicon, both early childhood and non-human Communication are heavily weighed toward manipulative speech-acts' (Tomasello and Call 1997, Savage-Rumbaugh et al. 1993; Pepperberg 1991; Carter 1974, Bates and al. 1975, 1979).

All Communication is manipulative inasmuch as it is aimed at change whether it is intended to be so or not. Indeed, this is all the more true as one goes back in Ontogeny, Phylogeny and

even backwards in the chain of Evolution. All language, indeed all Communication is action, more precisely intreraction.

'In contrast, the bulk of the grammatical machinery of human language is invested in coding declarative speech-acts. And the use frequency level, natural human Discourse is tilted heavily toward declarative speech-acts' (T. Givón COM 121).

The emergence of declarative speech-acts, whose Communication goal is largely epistemic, may have enhanced the liberation of epistemic mental predicates from their erstwhile subordination to deontic predicates. And the separate and more explicit lexical representation of epistemic predicates may have, in turn, contributed towards heightened consciousness of these quintessential mental framing operators, first of those referring to one's own mental states; and then, by extension – reasoning by feature association – of those referring to the mental states of others (T. Givón COM 122).

No doubt. But then, by extrapolation, the first state is 100 % not only deontic but deictic. Moreover both early childhood and primate Communication are weighed heavily towards here-and-now, you-and-I, this-or-that referents that are perceptually accessible within the immediate speech situation. This is narrowly connected to Deixis. Mature human Communication is, in contrast, heavily tilted towards spatio-temporal displaced referents, states and events. In terms of use-frequency, again, human Communication is heavily weighted towards displaced referents. This use-frequency bias is, in turn, reflected in the fact that much of our grammatical machinery is dedicated to communicating about displaced referents, states and events.
Yet, pragmatic use is highly deictic. Only conceptual - diachronically, ontogenetically, philogenetically and practically secondary - Communication is non-deictic.
Language's hardcore is not symbolic but iconic, not conceptual but deictic, not segmental but sub-segmental.
Language's hard core is founded on the biological nature of the species it defines.
Though endowed with language, Man is a biological being.
There is no contradiction between Man being endowed with language and its being a biological being.
There is no language without languaging people.

Properties of language

Language is both a (1) complex and (2) dynamic phenomenon. It must therefore be investigated as such. Any partial analysis, which would take the local for global, is bound to yield partial, nay completely false results.
Language is characterized by a certain number of properties, which distinguish it from any other system abusively called 'language'. Among those properties are deicticity, fixity, dynamism, iconicity, multiple encoding, taboo and interactivity.
The concept 'natural language' is a pleonasm.
No system called 'language' other than language itself can be considered as a language except in a metaphorical sense. Such systems include among others animal-'languages', sign-'languages', computer-'languages' and artificial-'languages'.
Language is not an act but an activity (Humboldt).

Multiple Encoding

I have created this concept in my PhD (Kirtchuk 1993), showing that concord is not restricted

to morpho-Syntax but that the same data are conveyed by several channels at the same time. *E.g.,* topicalization is a phenomenon by which a term is often signaled as topic by two marks at least: position and intonation-rhythm, and often a third one – the absence of morpho-syntactic link to other members of the utterance. Often the link, if there is one, is either anaphoric, including associative or inferential anaphore, or lexical; a grammatical link is rather tenuous and in any case quite less frequent than in the case of garmatically structured sentences, where agreement and concord accomplish the task of joining elements together. This is why Driver (1892) calls the topic in first position in Biblical Hebrew *casus pendens*, for the first element is only loosely connected to the rest of the utterance. This loose connection, achieved by position, rhythm and (sometimes) an anaphoric device, shows, iconically, the high communicative importance of the relationship between components. This is why any element can be topic, because *topic / focus* function are pre-grammatical. The focus or rheme, on the other hand, is the most important part of the utterance from the communicative point of view, its *raison d'être*. In other words, it is at the prominent part of the informative contour. It tends to be in final position, which is the cognitively privileged one as it is closer to the point where speech stops. Thus, the item that occupies it is more likely than those on non-final position to be memorized, processed and reacted to in real time. Iconically, the focus tends to be also at the salient part of the intonative contour. It follows that it cannot be clitic: If topic is marked by position and rhythm, focus is marked both by position and intonation. This means, incidentally, that rhythm (rhythm) and intonation (melody) are not to be confounded.

As for agreement and concord, they reflect the formal repercussion of one or more properties of the nucleus on other members of the clause or sentence, which in a structural perspective is sheer redundancy. In the framework of LUIT, on the other hand, the fact that the same data are encoded in several places in the clause, sentence or period is not a waste of time or energy. Quite the opposite, it facilitates comprehension, memorization and reaction, and at the same time it allows for other mechanisms like constituent-order to express pragmatic functions. Traffic lights are characterized by their colors, but at the same time by their respective positions. If the color filters are broken, position does the job. In language too, data are encoded at several levels simultaneously, *viz*. syntactic-cum-phonological, ***e.g.*** inversion of order with an interrogative intonation &c. Moreover, those mechanisms are mutually correlated: it is the *intonational prominent part* not its flat part, that corresponds to the *informational prominent part*.

It follows that agreement and concord are not restricted to morpho-Syntax or, for that matter, to Grammar. They exist in language as a whole, although they are not explicitly codified. To give but a few examples:

- syntactic-cum-pragmatic, *e.g*., violation of syntactic concord corresponds to pragmatic markedness, *cf.* Contemporary Hebrew

[' az	b-a-sof	ma	haja ⇑⇑ haja	makot ⇓]
then	at-DEF-end	what	be,PRET. NOP.SG.M	hit-PL.F

'so how did it end? in the end there was a fight (*litt*. 'there was punches'), instead of the morpho-syntactically normative /haju makot/;

- syntactic-cum-phonological, *e.g.* inversion of order with interrogative intonation, *cf.* Fr.

Viens-tu?
come, 2 SG -2 SG
'Are you coming?'

- syntactic-cum-pragmatic-cum-lexical, e.g., register being simultaneously marked at more than just one level, *cf.* Contemporary Hebrew

[ha-nasi	ve-raʃaj-at-o	šav-u	ʔarc-ah ⇓]
DEF-president	CONJ. spouse-F- NOP.SG.POSS.M	return,PRET-3PL	country-DIR

'The president and his spouse returned to Israel', against the more common (in all senses)

[david	ve-ʔišt-o	xazr-u	l-a-ʔarec ⇓]
D.	CONJ-woman-F- NOP.SG.POSS.M	return,PRET-3PL	to-DEF-country

David and his wife came back to Israel

Moreover, those mechanisms are mutually correlated: it is the *intonational prominent part* not its flat part that corresponds to the *informational prominent part*. Which is why in English one can cliticize the verb *be* when it functions as a copula, but not when it is a full verb, moreover focalized: "it's true!" is a sentence, but *"it's!" is not, because the pragmatically prominent part should correspond to the intonationally prominent part. To focalize "is" pragmatically, i.e. to confer it communicative salience, one must give it phonological salience as well: *it is!*
It follows that agreement and concord are not restricted to morphosyntax or for that matter to Grammar. They exist in language as such though they are not explicitly codified.

If language were independent of functional and cognitive factors, such a profusion of superposed encoding devices would be a waste. Without going as far as Langacker (1987), who claims that language reproduces cognitive processes (if it were so, not only language as such would be common to all Mankind as it is indeed, but particular languages too would be identical: there would be not only one language faculty but also one language variety), it is not independent from them. It is for this reason that not only intellectual but also sensorial channels are used to facilitate understanding, response and storage of data. It is the non-employment of those channels that would be anti-economic, since it would give-up using some cognitive faculties of the human being, who is more than a (calculating) machine.

If we consider the Merriam-Webster definition of *redundancy* as 'Superfluity… the part of a message that can be eliminated without loss of… information', then multiple encoding marks the end of redundancy in language. Even if we refer to the same dictionary's definition of *redundant* as 'serving as a duplicate for preventing failure of an entire system (as a spacecraft) upon failure of a single component' no mechanism in language is redundant strictly speaking because (a) there is not just one mechanism that serves as a duplicate for another one (such mechanisms are multiple), (b) we cannot be sure which one is the main one and which one is the substitute, (c) they function simultaneously all the time; viz. there is no secondary mechanism 'asleep', waiting for the main one to fail in order to start working and (d) they do not transmit the same information: intonation, rhythm, colour and intensity of voice, for: example, besides taking an essential part in the informational aspect of the message itself, transmit the speaker's disposition towards the contents of the message and towards the allocutary, and even the speaker's state of mind while participating at the speech act in general: All of this information is of the utmost relevance for the communicative interaction effected by linguistic means (what is currently called the *speech act*) especially if we take in account that communicative interaction is both the alpha and the omega of language, viz. that Pragmatics are at both ends of the linguistic phenomenon: it is pragmatic interaction, i.e. interaction in context, that eventually yields the language faculty, and it is thorough pragmatic interaction, i.e. interaction in use, that languages evolve and change or die. This too, like most of the observations, reflections and conclusions exposed in this book, refutes and falsifies both the generative Grammar and the Grice-Searl approach of language which has more to do with puritan morals than with language as such. As a matter of fact, both approaches,

Chomskyan and Gricean, are not as distinct from each other as it could seem at first glance; generative Grammar, like Grice's maxims, is marked with the stamp of right and wrong: linguistic constructions are either right ('*well formed*') or wrong ('*ill formed*'). This approach has cultural roots: in the Anglo-Saxon traditions, prestigious normative schools were (are?) called 'Grammar schools', although Grammar was not the only subject taught. In that cultural framework, however, Grammar is the intellectual analog to its puritan conceptions of good, right, moral and the like. Which means well-ordered, square, structured, uniform, &c. It is a totally culturally dependent approach, in the same way that geocentric astronomy or creationist cosmogony were. There is little link, if any, between this and scientific truth.

The multiplicity of the channels by which information and Communication are produced and transmitted permanently and simultaneously, and the fact that those channels are both sensory and intellectual follow from the fact that the being endowed with the language faculty is of biological nature and so is language itself. Multiple encoding and some of its grammatical manifestations including agreement and concord are among Grammar's most specific properties, more even than Morphology, for they allow putting order into the entropy characteristic of Pragmatics by marking in a consistent manner components of the sentence which are not necessarily contiguous, thus establishing overt explicit links between them, across word and component boundaries.

Language as creator of Information

What happens when two persons recursively coordinate their preceding coordinations in a continuous process? We may conceive of this as an interaction process in which new sounds and movements are made as ways to agree about the meaning of preceding sounds and movements. This meaning is a pragmatic one, not one put in explicit terms.

Through the recursion of coordinations, the coordinated behaviors become tokens for objects that are brought forth simultaneously with their tokens. We come to perceive the subject matter of our language through our sounds or movements. The recursion that happens in consensual coordination of actions between interactants can also be formulated as a recursion in consensual distinctions.

When writing a text, it is through the text itself that the thing it is about comes to existence. According to Maturana, that is how we construct reality, and I shall add: ***that is how conscience probably emerged out of language.***

The consensuality of distinctions is necessary for the bringing forth of objects. It is through the attainment of consensual distinctions that individuals are able to create objects in language. Only after an individual has attained some familiarity with the use of language he may be able to perceive new objects without consensus with others.

Objects as understood by Maturana do not ontologically precede the coordinating actions of the persons who construct them in language. Nor does the signification of words precede the things to which they apply. There is no Kantian world 'an sich' on the one hand, and on the other hand a domain in which that world is symbolically represented… Reality is strictly related to the way in which it is constituted in language, specifically in particular languages. Again, this proves the Sapir-Whorf hypothesis beyond its authors' hopes: we cannot grasp reality but through language, actualized only through particular languages. Though objects do arise during the recursive coordination of actions, each of the interacting individuals is having their own bodily existence in the first place.

'A cat chasing a mouse does not see it as an object; the cat can be observed in such a way that by its actions it distinguishes the mouse. The chasing and the eating are an external observer descriptions about which the cat will not agree or disagree simply because the cat doesn't

make descriptions at all' (Maturana 1995). This is one of the reasons that there are no such things as animal 'languages'. Other reasons are among others that no animal so-called 'language' allows to utter non-truths or indeed to be used or not used at will (bees are unable *not* to transfer information about pollen, to change the order and content of the information conveyed, to transfer any other kind of information and/or to inform on information itself. One of language's great innovations is that it is capable of imagining, i.e. of combining entities and proprieties that do not belong together in reality. No dolphin, ape or ant is capable of communicating let alone conceiving a carrot running through a cornfield. Language can and just has.

In other words, linguists who oppose 'Words' to 'Things', *Wörter und Sachen*, make a mistake: *Words too are Things*. The proper distinction, if any, is therefore between *Words* and *Other things*. Words always have a physically describable sonorous material structure - whether we know it precisely or only in a more general form, as is the case of ancient tongues whose written records do not represent vowels, for instance - and they also represent other objects, which sometimes do not have such a material structure, such as purely abstract concepts like *truth, justice*, &c., or grammatical or pragmatic functions (*the*…) or relations (*on, under*…) &c. *Words are Things whose Function is to Represent Other Things, in a more or less Iconic or Symbolic Fashion*, that's all. The same holds for all other linguistic phenomena, including syntactic structures, morphological patterns or formants, segmental or sub-segmental phones, &c. One corollary is that whenever we are separated from the *Things* - landscapes, objects and beings to which we can be attached in various manners - we still have those other *Things*, namely *Words* and other phenomena which together constitute this greater *Thing* which is our *First Language*.

A linguist doesn't know any foreign language. Yet the linguist too has a (sole, often) first language, a.k.a. 'mother tongue'. This implies that languages acquired later are 'fiancée languages', so to speak… The mother-tongue words, sounds and even structures, not to mention that which does not conform to those structures, are watermarked by the emotions associated to their emergence in the dialogic child, to their acquisition and to their first uses, let alone by their subconscious content. These emotions are forever more part and parcel of the dialogic adult's mother-tongue. This is not the case of a language acquired later in life, be the mastery thereof perfect as it may. It follows that a truly bilingual is such from the very start or else (s)he isn't really bilingual.

Taboo

No communication system other than language contains taboo elements universally linked to psychologically connoted anatomical, physiological and mental domains: sex and secretions on one hand, the supranatural on the other. This is a linguistic universal, in apparent contradiction of the principle of economy: there are elements in language whose utility by definition tends to zero, since they are to be used only in extremely marked contexts. They refer to clear-cut anatomical, physiological and psychic domains, in which verbs and nouns, cross-linguistically, have several variants each, in conditioned distribution depending on register: one (often reduplicative, hence of 'expressive', i.e. affective, spontaneous, primary origin and structure) to be used with children; one to be used in medical parlance; sometimes a colloquial one; and [more often than not] various slang forms. For the sake of illustration, a table is a table and a kidney is a kidney in all of these contexts, while the region below the

chest is tummy, belly or abdomen (to give an innocuous example) and the divinity is the Almighty, the Lord, God, Gosh, Goodness, Hebrew ha-šem 'the Name' (*cf.* French 'Nom de Dieu'), &c., according to register and context. The only explanation is also biological, evolutionary, cognitive and functional, since language treats in a distinct fashion certain entities that are psychologically distinct from all others because of their heavy emotional value, at the sexual-reproductive, scatological-digestive or mystical- superstitious level. Moreover, here again, psycho-physiological context marking corresponds to register marking which is reflected, eventually, in lexical marking. The recent use of the word gender in American English to denote a person's sex belongs heretoo: in a puritanical culture, even the word sex is too connotative to be used in everyday parlance, let alone in official formularies; it is therefore a partially taboo word reserved to denote not appurtenance but activity, i.e. not a permanent and inherent state but a punctual action, accordingly collocated with 'have' and not with 'be'. The lexical phenomenon of taboo words seems to be just as universal as the fact that languages possess items to designate numbers up to (at least) four, body-parts and the extension thereof, namely close biological kinship, and omnipresent natural entities including major celestial bodies and their effects.
Both last properties, among others, also distinguish language from so-called computer 'languages'.

Language as permanent encounter, altruism or love

We human beings live in and through language (Maturana 1978). This means that our very humanity is defined by language, not only since our conceptual capacity depends on it, but, first and foremost, because we communicate permanently, even when we are not engaged in actual conversation. For us, communication is a *modus vivendi*.
In other words, we human beings are languaging beings even when we are not involved in linguistic activity and even when our language faculty is impaired to whatever degree.
Homo sapiens sapiens is what it is through language and thanks to language.
Homo sapiens sapiens is not a rational and/or symbolic species, but a species whose individuals are animals capable of reasoning and symbolizing.
It is language that makes us human. All other human specific properties derive from it.
Language emergence is an autopoietic process which cannot have taken place but in a species engaged in close social relationships spanning all aspects of Life and all periods of the year, practising extensive and consistent collaboration and cooperation rather than competition and war though not restraining from them (Maturana 1973 and henceforth).
Language as a continuous, conscious and collaborative interaction is a permanent encounter (Buber 1923: *Alles wirkliche Leben ist Begegnung);* in terms ethically inspired, inasmuch as language allows to exert the permanent ability and need to share with other languaging beings it is *selfless behaviour* (Lieberman's 1991). In Maturana's terms (1978) language results from and denotes *love*. For the psychological aspects, *cf.* Mitchell (1988).

It follows that language dynamics from its very emergence is rooted in emotion and action. This may be difficult to accept for a mind educated in the Western tradition which harkens back to Plato, especially in its rationalist and idealist variant, particularly praised in French philosophical tradition, whose quintessential approach is best expressed by Descartes dictum *Cogito ergo sum*, 'I think therefore I am'. Thought, contemplation, and disregard for ontext are the very foundations of this approach. As far as linguistics is concerned, Generative Grammar, its formalist variants and its structuralist precursors fall into that category. Other approaches than Plato's, however, include emotion and action in their paradigm and may even

reckon them to be both the origin and the goal of the most complex cognitive processes. The Jewish approach, for one, which happens to be this writer's *alma mater* along with the Western tradition, is eminently pragmatic, scalar, and action-cum-emotion wired. An apparent paradox appears: the classical Western approach, founded on sole reason, and it's applications in linguistics - Chomsky explicitly mentions Descartes as well Arnauld & Lancelot, the authors of the *Grammaire raisonnée et générale de Port Royal,* as his spiritual fathers - which considers the approach advocated here as pure speculation, decrees by so doing reason's incapacity to solve the problem of language hence of conscience and of reason itself ; the present approach, on the other hand, which considers emotion and action as the foundations of language, of which reason is a by-product, succcessfully uses reason in pursuing its quest of the origin and nature of language thus of reason itself. This paradox is solved in a Russellian way, so to speak - though he would have probably denied the link: we must accept to consider reason as a most subtle tool for resolving riddles, but not the only tool nor the power that governs those riddles. Reason is not its own reason, and language is not its own aim.

Epilogue

The advantage of LUIT, based on observation of linguistic data and reflection thereupon is manifold: it (1) enriches the linguistic scene with data that until now were at best treated as merely 'expressive' (Bally [1932] 1965) or at worst deliberately left out of it; (2) establishes clear links between linguistic facts that until now seemed unrelated to each other; (3) does so by an inversion of perspectives between *cause* and *effect*; *central* and *marginal*, *prior* and *late*, and in this sense it is a Copernican revolution in linguistics; (4) allows to explore the development of language not only from present day backwards, but also from its evolutionary beginning onwards, *towards* present time: to dig the tunnel in both directions, so to speak, which is bound to yield faster and better results; finally it (5) links language to other phenomena characteristic of the form of Life known as *Homo sapiens sapiens*. In other words, this is the answer to Bühler's wish when he says:

'Dagegen fehlt vorerrst noch ein völlig klares außersprachliches Modell, an dem die Sprache abgelesene Darstellungsweise illustriert werden könnte' (ibid.).

Taken individually the phenomena dealt with may seem 'expressive', the term that for a long time allowed to account for them without integrating them into analysis. Yet their omnipresence at all realms and at all levels of language, any language at any stage, leads to see them not as accidents but as manifestations of the nature of language and its speakers. Of language not Grammar for it is the former not the latter that is the object of linguistics. Grammar is only the emerged part of the iceberg called language. All linguistic theories are false which postulate (I) three equal grammatical persons, and/or (II) deictics as pro-nouns, and/or (III) multiple encoding as restricted to Grammar, and/or (IV) syntactic structures as commanding communicative ones, and/or (V) non-segmentals as additional phonemes, and/or (VI) verb as such in language as such, and/or (VII) language as restricted to Grammar. A mnemotechnic form would say that **P** is before **S**:

***P**arole* before ***S**cripture, **P**raxis* before ***S**tructure, **P**erformance* before ***S**ystem, **P**ragmatics* before ***S**yntax.*

The relationship between structural linguistics and LUIT is akin to the one between classic and modern physics (as for generative linguistics, it evokes Ptolemaic astronomy). If we (a) look at language as it is through its particular manifestations including among others infant speech, spontaneous adult speech and creoles; (b) pay the communicatively and pragmatically

salient elements of language as much attention as the one devoted to the conceptually important ones; (c) consider Diachrony not as historicity but as dynamism; (d) conceive human beings not as rational animals but as animals capable of reason, as Jonathan Swift had it; (e) grasp all the information linguistic data and speaking people offer us and ask all the questions they keep replying to, we are bound to conclude that language is part and parcel of (human) Evolution. The new Language Science cannot be constrained to language as such (and certainly not to Grammar) for language is the locus where many fields converge. Thus, Language Science cannot exist as a singular and even less as a plural, which would cut the domain into discreet parts. It can only exist as a collective, as a Scienza Nuova, in the spirit of Giambattista Vico, inasmuch as it has by necessity to comprehend many other realms as well. Or be comprehended itself in a vaster ensemble. Indeed, investigation of language 'en lui-même et pour lui-même', to paraphrase Saussure, is bound to give results which would be both partial and false, while only the global and plausible, adaptable, proteiform would be acceptable.

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