Cognitive Poetics and human (con)figurations of biocultural life, mind and language. Towards a theory of socially integrated science.

> "*Expressions do not mean; they are prompts for us to construct meanings by working with processes we already know. In no sense is the meaning of [an] ... utterance 'right there in the words'. When we understand an utterance, we in no sense are understanding 'just what the words say'; the words themselves say nothing independent of the rich detailed knowledge and powerful cognitive processes we bring to bear*".
>
> (Mark Turner 1991)

Overall, cognitive studies of language are presently starting to fracture the absolute pre-eminence of the individual, understanding and analyzing human(-being) cognition integrating primary social elements that substantiates its complex adaptative dynamics. From a vital view of *human cognition* as *human action*, we cannot understand individual cognitive activity (not even brain structural design itself as distinct in its plasticity and its dependence on experience as posed by G. Edelman (1992)) if we do not incorporate a fundamental social interaction process with all its culture-specific structural components being assembled *on-line* in individual cognition in order to make and share human reality. As such, this *joint* reality will necessarily and evolutionarily be socioculturally situated (Frank et al. 2008). This hidden foundational commonality in the chaotic-creative way a human being fabricates (from the Greek *poiesis*) meta-material cognitive reality activating sensitive meaning structurings in conceptualization processes is schematically shown up in the ensuing linguistic (at all instrumental levels of language from phonetics, phonology or grammar, to text or discourse, and not only at the traditional semantic level) and in any other ensuing semiotic expressions (any iconic, symbolic or indexical representation) that expose the presence of deterministic cognitive principles structuring culture-specific language in general.

In Cognitive Poetics and Linguistics (Geeraerts & Cuyckens 2007), some of the most methodologically advanced cognitive principles today are *entrenchment, figure/ground, mental*

spaces/blends/frames, or *conceptual metaphor/conceptual metonymy*. *Entrenchment* affords a self-replicating highly repeated experiential structure of meaning to become cognitively automatic (hidden, unconscious) in order to be activated with the least possible cognitive labour. The *figure/ground* alignment affords the organization of a distinction between a profiled element that first attracts the observer's attention (figure) and those elements that operate as additional information foregrounding the figure in order to comprehend it and situate it; i.e., (con)figuring the salient constituent. The principle of *mental spaces* is related to conceptual integration processes and to *blend*s (Fauconnier & Turner 2002) as emergent integrated spaces. Two or more mental spaces create possibilities for the emergence of a new one showing partial structure of these but new relations. Though we tend to think that the highest levels of complexity are found in artistic discourse, numerous apparently simple conceptual structurings are counterintuitively highly complex as for instance those projections and integrations found in an enunciation in use like "This surgeon is a butcher" (see Brandt & Brandt 2005). Thus, in the new Cognitive Poetics trivial things concerning language and thought are rigorous things. Last but not least, the *Metaphor and Metonymy* principle is widely known for its transferences to particular current social affairs like religion, health or politics as in Lakoff's (2004) *Don't think of an elephant!* explaining the defeat of the Democrats and why the Republicans won the U.S. elections in November of 2004 on the basis of a poor instrumental articulation of real progressive values as reflected in the English language used by the Democrats. Very briefly put, partial conceptual structure of our knowledge of a given conceptual domain projects onto a different conceptual domain (metaphor) or into the same (metonymy), to endow it (at all instrumental linguistic-pragmatic levels like grammatical, syntactical or discursive) with positive structure of meaning it lacks. They are known as source and target conceptual domains. Due to its phenomenal adaptive

complexity, the natural lack of endogenous meaning structure is very usual in abstract concepts like *mind, life, reality, theory, love,* and so many others. Consider *mind* as a target conceptual domain lacking meaning structure of its own; you need the source domain *container* to endow it with positive meaning; that is why we have expressions like "take that *out* of your mind", or "what do you have *in* mind right now?" We are able to understand them right away not as figurative, its real shape, but as literal construals, which is actually an unreal shape (Coulson & Lewandowska-Tomaszczyk 2005). This is why *on-course* language, or language in use, is mandatory to study it in relation with human cognition, for it unveils the pre-linguistic, pre-conceptual dissipative phases of the substantial processes of meaning (and gestaltically knowledge of the World) construction. Mapping these processes in all possible languages is a task presently carried out by numerous international researchers. In this present *episteme* an Atlas (Serres 1995) of Knowledge would be an actualized realistic version of the mythical Tree of Knowledge.

A clarifying way to understand these biocultural structurings activating specific conceptual (con)figurations in their evolutionary complexity is to consider these *online* constructions as *encyclopaedic* meanings (in use, negentropic) as different from those *lexical* meanings (isolated, entropic) that we find fossilized in dictionaries. Think of the lexical item *upon* as alive in "Once upon a time," and then look it up in the Oxford English dictionary: You could not make (visible) sense of this proposition in terms of lexical meaning while you are clearly making (invisible) sense of it in terms of encyclopaedic meaning. Moreover, a translator into a different language could never rely on the lexical dictionary say English-Spanish and arrive to its widely entrenched Spanish form "Érase que se era una vez," (literally "It was it that

it was once,”). Basic cognitive dissipative dynamics as projection and integration occurring in different environments are necessary for real meaning structure to emerge.

Basically, Cognitive Poetics focuses on what primarily rubs out this dualism *linguistic entity / encyclopedic entity* that foregrounded after 1980 the cognitive breakthrough in the studies of language from the computational (understood as in Chomsky) to the experiential line (Lakoff, Fillmore, Langacker, Talmy). Cognitive Poetics is then a constitutive part both of a Second Generation Cognitive Revolution and of the so-called Theories of Complexity. It explores (chaotic) cognitive activity socially experimented by a human being about a category expressed through a (deterministic) symbolic, iconic or indexical element of any semiotic system. In 1980 a text was published that clearly exposed for the first time figurative meaning constructions as a matter not of (each) language but of (human) thought; i.e., as fundamental cognitive mechanisms instead of as rhetorical ornaments of a language. Lakoff & Johnson’s (1980) *Metaphors we live by* unfastened an oceanic space of new cognitive approaches to the study of languages focused on the way we use them that required of any technological, empirical and descriptive advances in all extant sciences studying human cognition as biophysical activity.

Shortly, second generation cognitive theories of language depart from previous ones in that they investigate the reality of linguistic phenomena in terms of human cognitive *poiesis*, thus discarding any first generation view of language as separated from the rest of human cognitive system, i.e., as an independent cognitive, mental or cerebral “module”. A new way of understanding basic poietic processes like ‘categorization’ (Lakoff 1990) prompted structural theoretic changes concerning language and meaning construction as cognitive activity that could

be unified in Fauconnier's proposition "language does not carry meaning, it guides it." (1994: xxii).

At present, the sociocultural view underlying these embodied transindividual cognitive phenomena has extensively irrigated the international interdisciplinary research on Cognitive Studies of Language, considered as a complex system, in fields traditionally bounded to Humanities like Poetics, Philosophy, Linguistics, Semiotics or Literary Theory. Recently, five main evolving theoretical edifices exploring functional relations between cognition, culture and language have emerged that progressively identify new primary social aspects of (individual) cognitive activity. These focal theories are known as *embodied cognition* (Lakoff & Johnson 1987), *situated cognition* (Zlatev 1997), *distributed cognition* (Hutchins 1995), *synergic cognition* (Bernárdez 2006), *and dissipative cognition* (Guerra 1992, 2001, 2010). Our hypothesis is that they can be analysed as five universal (unifying) initial conditions of a human (socio)cognitive action corresponding to five types of biocultural processes of adaptive integration: bodily, environmental, collective, historical, and temporal. All of them are primary creative conditions in a bottom-up complex dynamics graduation scale varying from body to time as principles of chaotic-deterministic organization based upon chance and necessity. This social extension of Cognitive Sciences entails a Cognitive Poetics more comprehensive and compressive of the dynamics of real complexity (Katherine Hayles 1991) of those poietic processes of meaning evaluative-construction biased by language and articulated in linguistic units (phonemes, morphemes, words, sentences or texts) understood as symbols (Langacker 1999; Barsalou 1999; Deacon 1997). Among all these increasingly dynamic linguistic units of morals/meaning construction (Guerra 2009), typically the most dissipative one is the *text* in its

variety of open, complex, forms (Beaugrande & Dressler 1981; Bernárdez 1995; Werth 1999). Being the richest unit in information and affordances, a text as complex adaptative system implements the essential communicative (evaluative and symbolic) process with more creative complexity when activated by any new agent due to a more intense interaction of element and factors with the environment (Guerra 1995, 2001). This higher order complexity of texts could be seen as cognitive biocultural motivation for many of the sociocultural problems we are facing today. Just a few of them are texts's historical categorization in *genres* and *subgenres*, texts's controlled articulation for empowering religious fundamentalist purposes, or texts's modern turn into the main *technology* to make joint real science of one type or other in order to investigate human makes like science, technology, nature; in essence, to investigate the complex *poetics* of human *life*, artificially natural or naturally artificial which we can understand metacognitively as one and the same continuous construction or make.

This paradigmatic turn to the real science concerning any human sociocognitive process or assembly of structures related to language-in-use, originated out of a straightforward discern that Gilles Fauconnier (1994: xxvii) has expressed in clear-cut terms:

> Once we start paying attention in everyday life to instantiations of connectors, frames, induced schemas, conceptual connections, and metaphor, counterfactual mental spaces … the real world discloses far richer and more revealing configurations than our feeble efforts as linguists or philosophers have been able to produce. There is an abundance of such data that goes largely unnoticed despite its obviousness, mainly, it would seem, because it does not fit the observational categories of our established academic practice. 'Discovering' bodies of data that were staring us in the face, and yet were invisible to us (the black holes of science, the blind spots of the scientist) is a common feature of the evolution of scientific inquiry.

Moreover, this theoretical and notional adjustment in terms of thought and language structuring complexity from the individual to the group or cluster of individuals, has been

entrenching the new comprehensive view of *cognition as activity* that is discrediting former views of language and cognition as simple autonomous structure (as in Chomsky's Generativism). Historically, this new approach to *cognitive* studies of human language in implicit terms of *sociocultural cognition* has been widely nurtured by former schools from Dewey or Vygotsky and its Bruner's extension in the U.S., to Bourdieu, Turner, Brandt or Bernárdez as some of the most influential thinkers. This new methodological maturity in recent cognitive studies of language on the basis of the shared (Tomasello, 2003) way we think, has released a realistic turn from Humanities to Social Sciences that is currently an important territory of a transdisciplinary atlas of academic understanding and knowledge of human life, cognitive evolution and complexity; by and large, this territory is epistemologically deep-seated in a global 'Realist Turn' (Guerra 1992) framed by the New Alliance between the two all-encompassing Cultures of Human Sciences and Natural Sciences that Ilya Prigogine brought about during the past 1970s. Actually, the current creatively indeterministic academic situation of Social Sciences is both a crisis and a way out in the on-going research on basic cognitive mechanisms of the human mind that, through primary processes of *poiesis* and *autopoiesis,* trigger constructive (communicative) activities like *language* in order to answer a huge variety of unrequited foundational questions like 'What do humans have the evaluative and symbolic capacity of language for?' Methodologically, all studies from Physics, Biology or any other science of life dealing with mechanisms of self-regulation in natural complex phenomena are manifestly required to advance in our (chaotic) metacognitive understanding of the human cooperative mind from its (deterministic) symbolic, (linguistic and non-linguistic) expression. Cognitive Poetics adds up to an inclusive prism on language that cognitive psychologist Christopher Sinha (2007:1287) poses as the basic proposition which unites many subscribers to the scientific

program of second generation Cognitive Studies of Language: "language can best be made sense of by recognizing that it is structurally and functionally continuous with, motivated by, and emergent from non-linguistic cognitive processes."

As with any single scholarly way of understanding higher order abstractions like *life*, *world*, *reality*, *artifice* or *consciousness*, today it is unfeasible to face an enlightening evolution of Humanities out of the highway of present technology and scientific-empirical growth. The newly observable motivation is that holistically both traditional Humanities and Sciences are basically one and the same 'socially integrated' Real Science. Maybe in the near future we should create something like an Academy of Global Science to complement so many Academies of Local Sciences, as an Institutional space for a real new alliance where all researchers together (including artists as 'makers') can search for a unified theory of social understanding as human life-making.

In this innovative interdisciplinary passageway towards an all-inclusive theory of socially integrated real science we posit Cognitive Poetics as a foundational theory of (meta)cognition implementing the making of human self-reflexive knowledge of biocultural life, mind and language. In this critical search for (con)figurative common sense, scholars have already started analyzing that abundance of data that Fauconnier talked about from relatively simplex lexical-semantic data like that produced for instance by the reification, entrenchment and lexicalization, in different languages of the concept "metaphysics" in contrast with a not-yet-existing "metapoetics", to the relatively most complex textual or discursive data. These two lexical items viewed as conceptual construals, the former conventionalized and the latter novel in this essay,

recruit partial etymological meaning structure both from the Greek *physis* ("nature" as material movement) and *poiesis* ("make", "construction", as non-material movement interacting with nature, with the material). We have linguistic proofs of this strange meaning-behavior like in the counterintuitive expression "the real *thing*" as having been much more widely used in the Human Sciences than in the Natural Sciences. These same conceptual fluctuations have caused that the concept and its lexical item "metapoetics" has never been produced while "metaphysics" has evolved increasing complexity as socioculturally situated human activity up to its wealthy present neguentropic ill-definition; paradoxically and parabolically (Turner 1996:6) this "crisis" is grounding its chaotic-creative projection to several different conceptual domains where we could not close any exclusive real meaning. We have even attributed fuzzy meaning to "Metaphysical" Poetry to make sense of a bunch of experimental poems written in the 17th century or to "Metaphysical" thought in Philosophy or, in the same open adaptive system of conceptual construction, to the complex expression "How metaphysical is this girl!" On the other hand, English speaking individuals like me at this moment in this text, have never before produced conceptualization and shaped lexicalization of a meaning structure like "metapoetics"; previously, it would have been considered a useless act of creating a new lexical element to make sense of something understood as cognitively ineffective shaped as "the poetics of poetics". The classical view of knowledge, cognition and language involved that this expression does not construct human action to be effectively shared like that found in "the poetics of mathematics" or "the poetics of life". In the heart of present Cognitive Science, Cognitive Poetics searches for these initial conditions of *poiesis* and *autopoiesis* in terms of the origins of human life-in-group from individual creature scratch. This investigation affords a new use of "the poetics of poetics" not only referred to *human* life but to *universal* life. In the heart of the

heart of this exhaustive *methodological* adjustment of the traditional Humanities, a prodigious fine-tuning is currently being set (both empirically and non-empirically) upon innovative epistemological and phenomenological cognitive foundations privileged by new technologies like those of Hypertext, Neuroimaging or Artificial Life.

In 30 years, the fundamental principles analysed in Cognitive Poetics as instrumented by innovative methods and models mainly from Cognitive Linguistics, Semiotics, Neurobiology, Psychology, Anthropology and Artificial Intelligence, have short-cut the long pothole research-path that took disciplines like Sociology or Psychology more than a century to cover. The focal issue is that these two latter have been for long traditionally situated in an uneven middle way between the *method* of study (Natural Sciences) and the *object* of study (Human Sciences). Today, the new paradigm of Cognitive Sciences, substantially Human and as such essentially Natural, has irreversibly began to (dis)place its theoretical principles on what cognition, culture and language is and on why do human groups have them for, closer for the first time to the method of study than to the object of study. This structural global change is what foregrounds the so-called 'Realist Turn'. Consequently, and for the first time in our scholastic history, Poetics, Linguistics, Semiotics, Philosophy or Literary Theory are newly grounded as methodologically structured new sciences that functionally study and analyze individual cognition as collective activity. Eventually, on this sociophysical basis that investigates cognition as biocultural action, this new site (Hayles, 1991) within our Western Culture will afford a self-organizing interdisciplinary dynamics of all other Sciences of Life and Complexity into that integrating cultural fuzzy frame that Ilya Prigogine called 'New Alliance'. Moreover, this present interfacial 'Realist Turn' could be globally defined here as consisting of this great blend between the two

old estranged Cultures that Cognitive Sciences are implementing as *res intensa* (Brandt, 2006) more evidently and extensively than any other contemporary theoretical construals. The *spectacular* developments of the versatile Cognitive Sciences, not precisely in terms of traditional *mimesis* (Auerbach 1946) but of new social artifices like mirror neuron's (Rizollati & Craighero 2004) activity prompting poetic *con/figurations* of joint human reality, confirm that Prigogine's 'New Alliance' is not just an illusion.

Our technological era is urging interdisciplinarity at all possible levels of constructive integration of principles, methods and models. Our endeavor is to investigate the morphodynamics of language as a biocultural complex system both as assembly of structures (*conceptual structures*) and as process (*conceptualization*). In this biocultural evolution, scholars and artists are experientially situated in a metacognitive scaffolding: we *are* what we *make* as "us"; more properly, I *am* what I *make* as "us". This sociocultural condition affects all Cognitive Sciences but Cognitive Poetics in particular for being *in* itself a primary theory of metacognition.

In Cognitive Science, *Poetics* can be implemented as the evolved science that studies and analyzes *poiesis* and *autopoiesis* processes (the real non-material thing) as complementing *physis* (the real material thing) in life construction. Separating the *natural* and the *artificial* (a sense lexicalized in "human life" and "artificial life" could be a late dualism that under the view of a future unified theory of socially integrated science may prove to be an error similar to Descartes' error (Damasio 1994).

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SUMMARY

On the basis of a revision of the real dynamics of Greek *poiesis* and *autopoiesis* as evolutionary processes of meaning and knowledge-of-the-World evaluative-construction, Cognitive Poetics proposes key philological, ontological and cultural adjustments to improve our understanding of thought, conceptual activity, and the origins and social nature of language. It searches for an integrated theory of social problems in general Cognitive Science: from Linguistics or Psychology, through Anthropology, Neurophilosophy or Literary Studies, to Neurobiology or Artificial Life Sciences. From an essential turn to the real thing, *cognition* as (social) *action*, it provides new unforeseen accounts of the complex dynamics of human essentially creative understanding studying and analyzing all form of texts as active fossils as *mentils* (Guerra 2009).

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