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# Ecological validity in the study of language

**Abstract.** Having its seat in both realms, the subjective and the intersubjective, as a product of human mind, society and culture, language appears to be the most complex phenomenon in the known Universe. It displays multiple layers of organization in its spoken and written manifestations, none of which can be ignored at the expense of any other, in communication, ideation and information processing. Therefore language, being an organic system of utmost complexity, requires holistic and organic methodology. Such methodology requires meeting the criterion of ecological validity. In the realm of psychological research, Gilliam Cohen, a cognitive psychologist, advocates "a return to real-life situations", such as "remembering real faces, shopping lists, scenes, etc." She demonstrated a reaction against "rigorous and artificial" psychological experiments, based on "nonsense syllables or words out of context".[1] Similarly, 'ecological validity' in linguistics requires a naturalistic treatment of linguistic data, real usage instances stemming from field work and/or the study of discourse/texts. Both observation and experimentation in linguistic research require naturalistic methods, where the so-called 'simplicity should not be sought at the expense of factuality'. In this sense, explorations into real texts within the Systemic-Functional Grammar framework, field work in the Anthropological Linguistics tradition, or the usage-based model proposed in Cognitive Grammar, all meet the criterion of ecological validity.

This paper is bound to grasp some of the questions inherent within multiple spectra organically resting among the constellations that reflect philosophical, psychological and linguistic points of reference. These points of reference also

[1] Cohen, 1977:6

emerged organically and naturally throughout the history of their evolution, in their own terms, as they evolved in their 'ecosystems' of ideas. In this way we hope to provide a broad realm for reflection on language and linguistic methodology, allowing to see unity through diversity, thus creating mutual affiliations of a parallel, convergent and complementary character, in the vein of an organic whole. First, we shall take a bird's eye view on ontological and epistemological questions regarding any kind of exploration within the Universe of natural phenomena. Next, we shall take a general view on linguistic enquiry in the 20th century. Finally, we shall survey key approaches to language articulating overall aspects of structural, functional, generative and cognitive orientations.

**Keywords:** epistemology; ecological validity; structural; generative; functional; cognitive approaches to language.

## A note on 'fact' and 'value' in natural sciences and humanities

This section is bound to address a range of canonical reference points regarding methodological situation that emerged in modern scientific and scholarly enterprise. We are going to show how much it owes to philosophical traditions and the paradigm shift after Copernicus. In most fundamental terms methodology is preoccupied with such questions as: what is bound to be explored (in terms of *objects*), where these objects are found (in what *domain*), and finally, from what *perspective* the objects are going to be investigated.[2] We also need to acknowledge the existence of an array of enduring *ontological* and *epistemological* dichotomies, and what they might yield as their 'offspring' notions: idealism and materialism, universalism and nominalism, rationalism and empiricism, subjectivism and objectivism, determinism and indeterminism, the absolute and the relative, theory and practice, fact and value, hence also, quantity and quality. Not as easy as they look in idealized forms, these dichotomies are often, somewhat misleadingly, expected to bring about a possibly 'faithful' representation of reality, whatever reality might seem to denote in the broad spectrum of objects within their respective domains embracing natural and cultural realms. The table below is an attempt to depict the counterpoints in a more neat and tidy arrangement.[3]

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[2] We owe this distinction, along with wording, to Professor Zdzisław Wąsik (in conversation).

[3] Skrzypczak, *Metarepresentation*, in preparation.

Table 1. Ontological and epistemological dichotomies

| **Idealism (Plato) IDEAS** | **Materialism (Democritus) MATTER** |
|---|---|
| Universalism | Nominalism |
| Rationalism (Descartes and *innate ideas*) and NATURE | Empiricism (Locke and *tabula rasa*) and NURTURE |
| A *priori* assumptions in reasoning | A *posteriori* conclusions |
| Deduction from rules | Induction from details |
| Synthetic judgements | Analytical judgements |
| Rules (assumed *a priori*) | Schemata (abstracted *a posteriori*) |
| Top-down generation of examples and instances | Bottom-up abstraction of reality 'under-finger-tips' |

The first and the second row of polarities in the table above concerns the ontological mode, the mode of how objects and phenomena exist. It should also address Aristotle's departure from Plato's position. The epistemological mode concerns the origin and the locus of knowledge, and also how it can be accessed. It is represented in the fundamental polarity between Cartesian rationalism and Locke's empiricism. Kantian conception of the *schema* activated and updated throughout experience allows us to reconcile the two positions and form a synthesis which is reflected in 20th century phenomenology, cognitive psychology and the experiential stance in cognitive linguistics.

This unified view is most precisely rendered the conception of the *perceptual cycle* in modern cognitive psychology.[4] Neisser defines perception as a "constructive process which involves construing anticipations of certain kind of information […] and anticipatory schemata are plans for perceptual action which assures the continuity of perception over time." The synthesis then, can be illustrated by two dynamic dualistic exemplar conceptions inherent in cognitive psychology and linguistics[5], resting on the feedforward (motoric) vs. feedback (sensory) alternation between the autonomous and the peripheral realms.

The above has led me to draw a tentative list of dichotomies that would span the dualistically complementary realm of the distinction between

[4] Neisser (1976: 21–22) defines perception as a "constructive process which involves construing anticipations of certain kind of information […] and anticipatory schemata are plans for perceptual action which assures the continuity of perception over time."

[5] Langacker (1987, 1990, 2000), see for the autonomous v. peripheral modes.

semantics and pragmatics: between the virtual (off-line) and actual (on-line), the potential and the real, between private and public. Thus we obtain a fairly stable distinction between linguistic semantics (with ICMs in mind) and linguistic pragmatics embedded in usage events.[6] If we assume Langacker's claim that semantic meanings are formed by way of abstraction (de-contextualization in a bottom-up fashion) from particular usage instances (pragmatic mode) and result in idealized cognitive models in Lakoff's terms (ICMs), then the model fits all the three positions, [1] the Kantian synthesis, [2] Neisser's perceptual cycle and [3] the aforementioned cognitive linguistic constructs (e.g. concrete usage instances v. abstracted ICM structure). Consequently, the representation below[7] shows the above contrasts in their mutual complementarity, which reads as follows: multiple usage instances feed the abstracted realm of semantic memory (for concepts), and concepts are used in communication and, later on, are fed back to the semantic memory [of the participants at both ends of the communication chain]. Here we should relegate the question of the distinction between *ideational* (cognitive) v. *interpersonal* (communicative) function in Halliday's sense, as it would probably require an extensive discussion. I am convinced such a discussion would shed additional light on the distinction I propose below.

The polarities involve the dyadic complementarity of MIND, CODE and CONTEXT. The domain of *mind* assumes the minds of participants on the encoding – decoding ends of the communication chain, *code* concerns the model of communication in likewise terms, and *context* is constituted by such diverse parameters as space, time, social variables, such as class, age, gender, ethnicity, also allowing for diachronic and stylistic considerations. Thus the proposed model for the semantic v. pragmatic contrast presents itself as follows.

Semantics ~ Pragmatics
Off-line/Off-record ~ On-line/On-record
Generalized ~ Specific
Virtual ~ Actual
Potential ~ Real
Private ~ Public

We must emphasize that the model draws upon and is consonant with the aforementioned conceptions of the perceptual cycle, abstraction from

[6] Skrzypczak, *Metarepresentation* (in preparation).

[7] Skrzypczak, *Metarepresentation* (in preparation), inspired by Givón's title: *Mind, Code and Context.*

usage and idealization in semantic memory. Concepts (ICMs) are ready there in the mind for a new pragmatic action 'on the lips' of the speaker in a novel communicative situation in the intersubjective pragmatic space. However cursory and provisional my polarities may appear to be, we can try and call to life further polarizations, also resting on the aforementioned rationalist v. empiricist leanings. This time let us concentrate on the domains of psychology and linguistics.

Table 2. Polarizations in psychology and linguistics

| **Gestalt and Cognitive psychology** | **Behavioral psychology** |
|---|---|
| Deduction from *a priori* assumptions | Induction from observable data *a posteriori* |
| Chomsky's Generative Approach | Bloomfield's Structural Stance |
| Mentalist in orientation | Physicalist in orientation |
| Cognitive-Code Learning Theory of language learning | Audio-Lingual Approach to language learning |

We also need to bear in mind two further inevitable polarities, such as the objective v. subjective and determinism v. indeterminism. When it comes to the first dichotomy, *objective v. subjective*, we clearly see it in the opposition between the so called positivist science in contradistinction to Berkeley's subjectivism (in the extreme version). The middle way is referred to as the so called *basic realism*, which assumes that, yes, objective reality exists, but we have no direct access to it from God's eye view, and we obtain the picture of the world experientially, being immersed in the world of nature and culture. This stance is particularly important for psychologists and linguists, as both domains of enquiry concern the highest degree of complexity when it comes to the objects, namely mental and social reality. Physicists can rely on their tools and methods of observation and experimentation with 'objectivist' goals to a greater degree than psychologists and linguists. The second polarity, namely, *determinism v. indeterminism* concerns the question of predictability when it comes to the states of the universe (understood metaphorically). Newtonian mechanics gave us a highly deterministic picture of the world, beautifully grasping natural phenomena in mathematical formulae. Einsteinian Relativistic Theory still appears to be deterministic, which is clearly expressed the saying that 'God does not play dice'. Quantum mechanics, especially in the early stages of Heisenberg's Principle of Uncertainty, appears to treat the subatomic realm as highly indeterminist. Beyond pure physics, the mental realm (including language) appears to be 100% unpredictable.

In order to further our reflection on the domain of human fields of activity and enquiry, let us now consider an elegant representation bearing two powerful dichotomies: namely, fact v. value and theory v. practice. Both are presented in form a diagram elaborated by Uberoi. After Khalid Tyabji (in conversation back in 1980s), who attributes the core of this model to his and Professor J. P. S. Uberoi of the Department of Sociology, University of Delhi.[8]

Table 3. Subdivision according to two polarities: fact v. value and theory v. practice

<table>
<tr><td colspan="4">THEORY</td></tr>
<tr><td rowspan="2">FACT<br>energy, temperature, weight, speed, etc.<br>are measurable.<br>Quantitative</td><td>Natural Sciences<br>study nature: physics, astronomy, chemistry, biology…<br>Social</td><td>Humanities (the Arts) study culture: history and theory of music, literature and art...<br>Sciences</td><td rowspan="2">VALUE<br>truth, beauty, morality<br>(as Platonic ideals)<br>cannot be quantified<br>Qualitative</td></tr>
<tr><td>Applied Sciences<br>(technology)<br>construct material artefacts: tools, buildings, vehicles,...</td><td>Art: activities that create material and immaterial artefacts in the semiotic realm of culture: music, visual arts, literary works...</td></tr>
<tr><td colspan="4">PRACTICE</td></tr>
</table>

Social science then, is bound to occupy the 'middle realm', with both feet in the domains of both nature and culture, as humans are immersed in both. It is so, because such disciplines as sociology or psychology, make use of statistical (quantitative) measurements of facts, as well as are concerned with the more elusive (qualitative) valuations. Due to similar reasons, linguistic frameworks may be legitimate candidates to occupy various locations along the spectrum between the natural sciences and humanities.

Finally, let us launch a comparative mode concerning the oppositions between the so-called 'objectivist stances' that grew as an outcome of the scientific revolution vs. 'non-objectivist stances', some still set historically in multiple traditions or parallel to our own times.[9]

[8] Uberoi, J.P.S. 2019. [ed.] K. Tyabji. See also Skrzypczak (2006: 8)

[9] See: Skrzypczak (1995, 2006), see for further elaborations and details.

Table 4. Objectivist vs. Non-Objectivist positions

| **Objectivist** | **Non-Objectivist** |
|---|---|
| Emphasis on facts | Emphasis on values |
| *Empirical stance*: subjects studying objects via the mediation of a scientific instrument and method and induction | Experiential (anthropocentric and phenomenological enquiry into reality) |
| *Rationalist* and empiricist methods, along with deduction | Abduction (Peirce's 'inferential leap') |
| Explicit formulations of data and the creation of reductionist models of reality | Implicit interpretations of experience and observations and an attempt at systemic and holistic models |

Modern 'objective' science then requires the [SUBJECT → INSTRUMENT / METHOD → OBJECT] formula. In other words, Subjects (Scientists/Scholars) study Objects (natural objects and natural phenomena, as well as artefacts) through the mediation of scientific instruments and methodology (e.g. data based on observation and/or experimentation, and analysis). The system applies to both natural sciences and humanities. Language then, as an object of study, can be treated in terms of natural phenomena involving human individuals and groups of individuals immersed in both Nature and Culture.

## A note on language as an object of enquiry

Linguists, facing the uttermost complexity, still need to employ a range of fragmentary analogies to highlight only certain selected aspects of language, for example:

1. language as a generative process (mathematical/computational, as in Chomsky/Kossylyn)
2. language as a garden-path (computational parsing/psychological/generative/Clifton/Frazier)
3. language as a transactional situation (social-economic/as in Firth/Malinowski/Halliday)
4. language as a problem-solving activity (psychological/as in de Beaugrande/Dressler/Schank)
5. language as an organic adaptive system (ecological/as in Schneider/Mufwene)

6. language involving valence properties (chemical/Valence Grammar, as in Tesnière, also GB)
7. language as a network system (stratification/systemic, as in Lamb/Halliday)
8. language as a topological system (geometrical/topological, as in Talmy/Turner)
9. language as a mapping or projection (mathematical/optical, as in Lakoff/Fauconnier)
10. Language as a blending process (mental space/selective projections, Fauconnier/Turner)

Various attempts of formalizations have accompanied this seemingly endless enterprise. But a multiplicity of perspectives appears to be desirable, if not totally necessary, since any approach constructed on the foundations of its own set of theoretical assumptions, no matter how 'exotic' and distant from its apparent opponents it may be, is bound to shed at least some light on at least of a 'slice of reality' (in my paraphrase, McCawley, in conversation[10]).

The richness of human perceptual, emotional, aesthetic, intellectual and social experience needs a methodology that can grasp *its own* complexity as well the complexity which emerges from linguistic variability across diachronic, regional, social and stylistic dimensions. In other terms linguistic systems [objects of enquiry] need to be handled in an efficient way [tools of enquiry], hence both represent some affinity to other adaptive systems and are bound to fit the economy principle. The economy principle is thus understood here in a two-fold way. First, as the efficiency of a linguistic system afforded by polysemy, morphophonemic and morphological-syntactic interpenetration, figurative language, pragmatic and referential phenomena, etc. Secondly, the tools need to be sharp and flexible at the same time to penetrate the object of study. In other words, 'every language needs to described in its own terms'.

## The territory and the roads to travel

Methodologically, the 20th century alone has witnessed the emergence of approaches and models in linguistics, in their various manifestations, overlapping or complementing (and sometimes opposing) each other – in quest for the uttermost levels of descriptive, explanatory and predictive

[10] Also: McCawley, in an unpublished interview: *Data fetishism for fun and profit*.

power. Structuralism, and its brands, e.g. the *Geneva School* (F. de Saussure), the *Copenhagen School* (L. Hjemslev), Functionalism, and its brands, e.g. the *Prague School* (V. Matthesius, R. Jakobson), the *London School* (J. Firth, M. A. K. Halliday), and *American Structuralism* (L. Bloomfield, C. F. Hockett, Z. Harris, F. Boas, E. Sapir, B. Whorf), importantly mark the avenues of linguistic thought in the 20th century. The first clear swing of the pendulum, away from Structuralism, took place in the 50s, when Chomsky's *Generative Project* emerged, gradually evolving from the *Aspects* and the *Standard Theory*, via *X-bar Syntax* and *Principles and Parameters*, and reached the stage of ultimate abstraction and reduction inherent in the *Minimalist Program*. On the other end of the spectrum we witness the rise of functional and cognitive approaches, most notably – Hallidayan *Functional-Systemic Grammar*, *Role and Reference Grammar* (La Pola and Van Valin), also Dik's *Functional Grammar*, complemented by *Text Linguistics* (A. de Beaugrande, W. Dressler), and *Cognitive Linguistics* (R. W. Langacker, G. Lakoff, M. Johnson, M. Turner, G. Fauconnier, L. Talmy, E. Sweetser) – all of them variously express reactions against the reductionism and formalism of the generative stance. In this context we also need to mention the positions represented by *Tagmemics* (K. Pike) and *Stratificational Grammar* (S. Lamb) as systemic, holistic and organic in orientation. Further, we need to note the role of research within pragmatics and semiotics, the fields that feed equally well into structural, functional and cognitive approaches, and inevitably complement them grossly forming parallels and points of convergence. Pragmatic enquiry into such phenomena as cooperation, implicature, presupposition, relevance, indirectness, politeness (cf. P. Grice, D. Sperber, D. M. S. Wilson, D. Blackmore, S. Levinson) complemented by various brands of semantics, lexical semantics in the vein of componential analysis, classical (criterial attribute) model of categorization, natural (prototype) model of categorization, or natural semantic metalanguage (cf. J. J. Katz, P. M. Postal, J. Lyons, E. Rosch, A. Wierzbicka), and a broader view of Montague Grammar v. Situation Semantics (R. Montague, J. Barwise, J. Perry), constitute the areas that are bound to complement broad views on language and meaning as systemic, organic and ecologically valid phenomena.[11]

[11] For a detailed presentation and discussion of linguistic paradigms in the 20th century see: Fisiak (1995) and Koerner (1995). Also for further elaborations on functionalist and cognitivist approaches see: de Beaugrande and Dressler (1981), Fauconnier (1985), Lakoff (1987), Langacker (2000) Talmy (2000), Halliday (2004), Van Vallin and La Polla (1997). Also see: Skrzypczak (2006) for a detailed survey on Cognitive Linguistics.

Adding the semiotic dimension we further on witness some kind of parallel evolution of views regarding literary texts as objects of study, and also other artefacts involving creativity and imaginative engagement, such as visual arts and music. Literature is to be understood as the most refined and unique form of linguistic expression, as it involves such artefacts as "the capacity for reflection and imagination", as Terrence Cave puts it: "Literature, in the broadest sense of the word, is one of the richest of [those] artefacts."[12] Cave strongly advocates the power of the *Relevance Theory* (cf. D. Sperber and D. M. S. Wilson) as a stable mode of approach to literary description and interpretation. Thus the story of 20th century approaches to *Literary Studies* and *Cultural Studies* appears to be equally captivating and multifaceted. Semiotics, among many other disciplines, has provided a stable constellation of reference points of notions. Ch. S. Peirce's INDEX-ICON-SYMBOL triad, in particular, appears to be the key tool in the treatment, description and explanation of a limitless range of codes within the spaces of diverse cultural formations: totems, alphabets, logo signs, road signs, brands, musical and mathematical notations, dress codes, styles and genres in music, dance, drama, literature and visual arts. Also the *Structuralism* of F. de Saussure, with the paradigmatic vs. syntagmatic relations, directly contributed to the growth of R. Jakobson's *Formalism*[13] (in literary studies), and was later mediated to Claude Lévy-Strauss, the founder of *Structural Anthropology*.[14] Further on, in the second half of the 20th century, Structural and Post-Structural stances opened up new avenues towards the emergence of 'context-sensitive' approaches in literary analysis and discourse at large. *Psychoanalysis, Postcolonial Theory, Feminism, Historicism, Deconstruction*, etc. constitute seemingly fragmentary perspectives, which in unison, provide valuable insights into the realms of human culture and experience, which are utmost in complexity and do not reduce to quantitative formulations. Such theorists as J. Lacan, R. Barthes, E. Said, F. Fanon, B. Ashcroft, G. C. Spivak, J. Kristeva, M. Foucault or J. Derrida, are merely 'clarion calls' addressing the methodological complexity in exploring literary and other cultural (discursive) formations, and inevitably they call for a need to employ interdisciplinary and multidisciplinary stances. For example, the canonical AUTHOR-TEXT-READER triad has many times been re-examined with respect to the traditional 'textual' v.'contextual'

[12] Cave (2016).
[13] Bradford (1997), Chandler (2002).
[14] Wiesman and Groves (2000)

approaches, such as Formalism and New Criticism vs. Reader Response Theory[15] respectively.

## A survey of approaches to language as an organic entity/phenomenon

To deal with the history of linguistics throughout history at large (since Panini, the Babylonians, the Greeks and Romans, scholars of the Middle Ages and the Renaissance, 17th to 19th century figures, e.g. Wilhelm von Humboldt, Jacob Grimm, and a host of researchers within the Comparative Philology, etc.) would be equally fascinating, but it would be an impossible task within the confines of this paper. Let us begin then with the year 1916 which symbolically marks the rise of Contemporary Linguistics.

## Structuralism as an umbrella term

THE GENEVA SCHOOL, most notably represented by Ferdinard de Saussure[16] and *The Course of General Linguistics* has provided a new starting point and left, as it appears in hindsight, the deepest mark in the development of positions and ideas regarding language and literature throughout the 20th century. In one way or another it projects itself onto the mode of linguistic thinking of all researchers, even the ones who later reacted against structuralism.[17] Even though F. de Saussure was mostly committed to the *synchronic* view on language and its description, the *diachronic* dimension is kept at the back of the mind inevitably, by way of a simple semantic entailment, Similarly, *la parole* does not disappear from view, even though *la langue* is championed as the primary realm of enquiry. It is most notably the conceptions of the *linguistic sign* and the *paradigmatic vs. syntagmatic* distinction which have most powerfully projected themselves onto the linguistic thought of the decades that followed, as they display a high mutual degree of integrity.

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[15] Bradford (1997).

[16] Fisiak (1975: 24–30) and John E. Joseph (1995: 233–238) [in:] Koerner and Asher [eds.]

[17] Expressed in Chomsky's celebrated example: *John is eager to please* vs. *John is easy to please*, demolishing the apparent stability of the syntagmatic mode, and calling for the introduction of the deep structure.

THE COPENHAGEN SCHOOL (L. Hjemslev's *Glossematics*)[18] utilizes them in many ways, putting forward such distinctions as *the content plane vs. the expression plane* and *form vs. substance*, and, most importantly the *commutation process*, involving a recapitulation of de Saussure's *paradigmatic vs. syntagmatic* distinction, in a form of two types: *conjunctive* and *disjunctive* logical dependencies (*both x and y*, and *either x or y*.)[19] Hjemslev's method, initiated in the 1920s, committed to the logical positivism of the time, rigorously observed the distinction between 'metaphysical' sentences and 'real-life' usage instances, the former stemming from a priori assumptions and the latter involving observable data. His analytical procedure was very much focused on *form* (at the expense of *substance*). He thus reinforced and articulated the *credo* of de Saussure's thought that it is the relationships among elements that are important. In this sense we can view the approach as striving for an organic picture of language as a natural entity.

AMERICAN STRUCTURALISM is represented by a range of diverse stances such as that of Leonard Bloomfield and Post-Bloomfieldians, Charles Hockett most importantly, and a group representing the descriptivist stance involving field studies in North American languages and cultures. Franz Boas, Edward Sapir and Benjamin Whorf form a constellation of theoretical figures who laid foundations to what we know today as Anthropological Linguistics.[20] The term American Structuralism appears to be merely an umbrella for such diverse orientations as that of Bloomfield (physicalist) and that of Boas (mentalist).[21] The departure from Bloomfield's position, towards organic and naturalistic treatment of the object of study, is also vividly seen in Charles Hockett's model of the *design features* of language and the Sapir-Whorf *Linguistic Relativity Hypothesis*. These two deserve due attention, especially in view of organic and ecological dimensions, as they opened avenues to new modes of understanding linguistic phenomena in the systemic vein. The model displaying *design features* of modes of communication, when narrowed down to primates, and further, exclusively to humans, upholds the commitment to the *Semiotic Sign* (e.g. duality of patterning), while at the same time language is seen as a biologically and psychologically grounded phenomenon. Then we encounter the domain of

[18] Fudge (1995) [in:] Koerner and Asher [eds.] and Fisiak (1975: 32–45).

[19] Fudge (1995: 226) [in:] Koerner and Asher [eds.].

[20] Fought (1995: 295–305) [in:] Koerner and Asher [eds.] and Fisiak (1975: 61–76). See also: Deutscher (2010).

[21] Matthews, P. H. (1997)

overlap between nature and culture. References to anatomy, acoustics, and environment, on the one hand, and such abstract formulations as openness, displacement and cultural transmission, on the other, constitute an integral organic construct presenting humans and human language within a broadly organic and multilayered system. Similarly Sapir-Whorf Hypothesis triggered off a range of research in the decades that followed within the fields of psychology, physiology and culture (e.g. colour perception, synesthesia, frames of reference, etc.). In this sense, despite the assumed labelling, we can gladly consider the contributions of Hockett, Boas, Sapir and Whorf as aspiring for ecological validity by virtue of a holistic systemic treatment of phenomena under inspection and data naturalness.

TAGMEMICS, a theory developed by Kenneth Pike (in 1950s)[22], proposed a method for the study of languages and human behavior in 'real field' situations, often with reference to so-called 'exotic languages'. It assumes the organic nature of semiotic systems as it draws upon the notion of *tagmeme* (by analogy to the notion of *phoneme*). In phonology the approach distinguishes a phoneme, a pause group, stress group and syllable. Tagmeme, most broadly, is taken to be the basic unit for creating 'new concepts' in 'new contexts'. A *tagmeme* in grammar constitutes a phrase, a clause, a sentence and paragraph, and defines relations between syntactic 'slots', such as *subject* or *object*, and a class of units, such as *noun* or *pronoun* that can 'fill' them (hence the term 'slot-filler' grammar).[23] In this sense Tagmemics is to be viewed as oriented towards functional models. Tagmemics allows to grasp the hierarchical structuring of language. In this way, it appears to be similar to Halliday's *Systemic Grammar* and Dik's *Functional Grammar*. Also, the oft-quoted Pike's emic v. etic distinction (by way of analogy to phonemic vs. phonetic), respectively, allows to grasp multiple phenomena under inspection along the spectrum between an insider point of view (emic) and an outsider perspective (etic). Thus a researcher (often observing situations and non-verbal behavior) undergoes a gradual transition from an outsider's viewing arrangement towards an insider's perspective in a given culture and language.[24]

STRATIFICATIONAL GRAMMAR, also referred to as 'a theory as a whole', developed by Sydney Lamb (starting in the 1960s),[25] constitutes

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[22] Jones (1995: 314–319) [in:] Koerner and Asher [eds.]

[23] Jones, (1995: 316–318) [in:] Koerner and Asher. Also: Matthews (1997)

[24] Fisiak (1975: 78–83).

[25] Bennett (1995: 320–326) [in: Koerner and Asher [eds] and Fisiak (1975: 122–127). Also see Lamb (1966 and 1999)

a prominent contribution in view systemic and holistic dimensions. In Lamb's model information is represented in a network which has distinct levels (*strata*). The networks model various linguistic processes, i.e. sememes, lexemes, morphemes and phonemes are bound by semotactic, lexotactic, morphotactic and phonotactic forms of realization respectively. Stratificational Grammar, is the closest approach to The Systemic Functional Grammar (Halliday in conversation, 1993). It has also been identified as a theory highly compatible with the Conceptual Integration Theory of Fauconnier and Turner, which was observed by W. J. Sullivan (personal contact, 2015). Both observations reinforce the opinion that the stance in question, namely, Lamb's position, is holistic in methodological orientation and treats language as an organic entity in naturalistic terms. The compatibility with *The Systemic Theory* will prove to be apparent further on.

## Functionalism as the pendulum swings

THE PRAGUE SCHOOL OF LINGUISTICS. Given our 'time-machine' working slightly backwards and forwards and back again, let us survey key functionalist approaches in their classical modes of existence. Apart from its achievements in phonology and phonetics (championed by N. S. Trubetzkoy and R. Jakobson), we witness the rise of the clearly *functional* organic treatment of linguistic data, to which we owe such distinctions a *sentence* (as a unit of a linguistic system) vs. *utterance* (as a unit of discourse).[26] The rise of the idea that language is a functioning system was best expressed in the Functional Sentence Perspective (FSP) stance, initially articulated by V. Mathesius (1928) by the *topic/focus* distinction, which allows to grasp the so-called 'natural order', evoking later on, accessibility hierarchies and the like. Further explorations in this vein have well lasted to our days. The confluence of such elements as prosody (sentence stress, in particular) and word order is most notably illustrated in the works of Szwedek.[27] The value of Szwedek's contribution lies in the organic treatment of data (prosody, word order and information dynamism) and is emphasized by the fact that he aspired to compare two distinct languages, displaying distinct systems in case allocations (analytical v. inflectional). The *topic/focus* and *topic/comment* conceptions, further propelled the distinction between *theme* and *rheme*, which respectively stand for the highest degree

[26] Hajičová, (1995: 254–261) [in:] Koerner and Asher [eds.] and Fisiak (1975: 38–47)
[27] Szwedek (1976) cf. *Word Order and Sentence Stress in Polish and English*.

of communication dynamism and the lowest degree of communication dynamism. In Halliday's understanding (see below), *theme* constitutes the springboard for information and cannot be confused with the given/new distinction (the latter involving dynamic transitions as the text is being processed). As Hajičová puts it: the "operational criterion for *topic/focus* can be found in the so-called *wh- question test* and […] leads to the notion of contextual boundaries".[28] Thus "the contrast between propositional semantic sentence structure vs. communicative organization of the utterance"[29] is fully articulated. It constitutes the next stage working towards an elaboration of the grammar-meaning interface. In addition such notions as *valency* and the initial treatment of what today we would call *semantic role* allocation entered the realm of interest of Prague scholars.[30] The Prague School of Linguistics, then, fully deserves to be viewed as striving for ecological validity in the way it approaches linguistic data and explores the object of study with respect to its discursive complexity. Other EUROPEAN SCHOOLS in parallel appear to embody a range of interests in fine structural and functional aspects of language, which made their widespread presence in descriptive discourses on language and interpenetrate other approaches. GUILLANMEAN LINGUISTICS, for example, which is considered to be an 'alternative' to the Geneva School, proposes such novel observations as 'the subjunctive as a representation of an event' and 'the indicative as a representation of the event in the universe of time'.[31] Gauillaumean stance also proposes a fine distinction between Nominative Systems [Agent<-Verb-tr<-Patient] and Ergative Systems [Patient<-Verb-tr<-Agent]. In a likewise fashion it is VALENCY GRAMMAR (known as DEPENDENCY GRAMMAR, L. Tesnièr's APPROACH)[32] that aspires to look more deeply on the organic mode of existence of language as a system of mutual interdependencies requiring the acknowledgement of interpenetrations among speech parts, sentential constituents, and the interpenetration of morphology and syntax. Allerton broadly reports on the valency of verbs in particular patterns, which in contemporary terms we would classify as: SVOA [*put, insert, place, locate*], predicative adjective phrases SVC [linking copular verbs: *be,*

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[28] Note that the two dichotomies *topic/focus* and *theme/rheme* cannot be treated as strait parallels in a one-to-one fashion)

[29] Hajičová (1995: 258–259).

[30] Hajičová (1995:258–259) provides such distinctions as: Actor/Bearer (Experiencer) or Patient/Objective or Goal/Object, Addressee, Origin and Effected Object (very much in the vein of Charles Fillmore's Deep Cases).

[31] Hewson (1995: 279) [in:] Koerner and Asher [eds.]

[32] Allerton (1995: 280–289) [in:] Koerner and Asher [eds.]

*become, remain, seem*]), and, again, bi-valent and trivalent constructions, such as (classical) SVO [*kiss, hit, kill*] and SVOO [*offer, give, send, buy*] and more specifically in SVOO [*make someone some tea*] or [*explain sth to sby, thank sby for sth*]). Allerton also reports on adjectival (as in: *afraid of the dark, fear of the dark*), (e.g. *to be responsible to x for y, keen on x, eager for x, dependent on x, independent of x, free of/from x,* etc.). He also addresses embedded clauses, complementation, reflective and causative constructions in terms of valency, and also adjectives and nouns as displaying *dependency properties* of lexical items, as a result, the capacity of a verb (or noun) to combine (cf. argument structure). This stance propels the idea towards the claim that it is the verb which is central to a clause (central node), which is also strongly echoed in Role and Reference Grammar. It is important to note that the conception of *valency* also made its presence in the Government and Binding Theory, as well as *semantic participant roles*, occupied the debates on the status of Theta Roles.

THE LONDON SCHOOL OF LINGUISTICS entered the stage more-or-less (historically) parallel to the time when THE PRAGUE SCHOOL was in full swing, and despite the slightly different focus on certain elements of language and its communicative functioning there are many points of convergence and mutual complementarity between the two.[33] I need to note with gladness that such a kind of solidarity was articulated implicitly by M. A. K Halliday (in personal communication in 1993, in Sydney) when he quoted the celebrated sentence in Russian *'V oknye ya uvidiel' zhehnshchinu' vs.'Ya uvidiel' zhehnshchinu v oknye' v. '* (*In the window I saw* ***a*** *woman v. I saw* ***the*** *woman in the window*) in order to point out the organic confluence between prosody, information dynamism ingrained in word order, and the consequences for the indefinite vs. definite reference. I the very same conversation Halliday also shared many other observations, concerning such conceptions of language as a social semiotic, the grammatical metaphor, language-based theory of learning and his strong commitment to Lamb's Stratification Approach, but now I will return to a more technical, and less anecdotal, mode.

The beginnings of THE LONDON SCHOOL are most notably associated with such figures as John R. Firth and B. Malinowski, and later on, and until very recently, with M. A, K. Halliday.[34] Malinowski's contribution is best known as his formulation of the *reciprocity principle*,

[33] See: Palmer (1995: 268–272) [in:] Koerner and Asher [eds.] and Fisiak (1975: 47–53).

[34] See: Firth, John R. 1957. *Papers in Linguistics 1934–1951*. London: Oxford University Press.

grasped by the formula: *to give, to receive and to return*. The reciprocity principle is the conception that inevitably leads to the assumption that linguistic behavior is *transactional* in nature, which is best represented in the act of *phatic communion*. This strongly functionalist stance has constituted yet another reference point for the formation of ecological idealizations regarding language and its environment, still relying on the well-known and widely accepted dichotomy between syntagmatic and paradigmatic relations. First and foremost, it was Firth's commitment to the *syntagmatic* nature of linguistic structure, which was best understood through his claim that "we know what the word means by the company it keeps".[35] Later on the stance was complemented by Halliday's focus on *paradigmatic choices*, which formed the basis for the systemic mode. The two modes, the syntagmatic and the paradigmatic propelled further explication between structure (horizontally arranged collocations) and system (vertically possible colligations). Hence the pendulum swung again towards a holistic, systemic and ecological treatment of language. Language as a 'social semiotic', expressed variously through such phrases as 'experience through meaning', along with the conception of grammatical metaphor, cohesion and coherence, etc. complement the syntactic-functional phenomenon (R. Hassan, M. A. K. Halliday in conversations, and also reflected in multiple publications).

THE SYSTEMIC-FUNCTIONAL THEORY, championed by Halliday and represented by a range of notable figures (R. Hassan, R. Fawcett, B. Mohan, Ch. M. I. M. Matthiessen)[36] appears to uphold Firth's assumptions that language is a social process, taking into account intersubjective and cultural components of meaning-making, and equally well, constitutes a deep cognitive commitment. This stance, as Halliday confirms, stands in agreement with the main European traditions of linguistics presented above (The Geneva School, The Prague School and French Functionalists), and also acknowledges influence of the work of American anthropological linguists, and traditional and modern linguistics in China.[37]

The shift towards the *paradigmatic* orientation, as mentioned above, leads to the formulation of the central concept of Systemic-Functional Grammar, namely the concept of CHOICE, choice of 'options in meaning potential',

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[35] Firth (1957)

[36] Halliday (1995:272) [in:] Koerner and Asher. Also see: Halliday, Michael A. K. (2004), revised by Christian M. I. M. Matthiessen, Halliday and Matthiessen (1999), Halliday and Hassan (1985), Halliday and Hasan (1976).

[37] Halliday (1995:272) [in:] Koerner and Asher [eds.] and Fisiak (1975: 50–52).

which creates a system network in the form of a lattice.[38] For example, for the system, e.g. [MOOD] entry conditions are applied e. g. [FINITE CLAUSE], which further materializes in options [INDICATIVE/IMPERATIVE], also presented by a Relational Network.[39] Such an open-ended treatment allows to elaborate ca. 1000 systems for the English grammar alone. The combinatorial potential of grammar requires a range of, what he calls, REALIZATION statements. They constitute the following operations of seven types: *insert element* (e.g. subject), *conflate* (e.g. subject/theme), *order* (e.g. finite auxiliary before subject), *classify* (e.g. process as mental, cognition-related), *expand* (into further configurations, e.g. mood), *preselect* (some feature of a lower rank, e.g. actor), *lexify* (e.g. lexify subject 'it').[40] As he further explains "when paths are traced through a system network a 'selection expression' is formed, consisting of all the options". Other concepts are that are foregrounded in the Systemic Theory as RANK and DELICACY. Rank is related to entire semiotic system, namely, phonology along with prosody, lexicogrammar, semantics and pragmatics. Delicacy regards the power of options in the selection of elements on each level, e.g. *buy* v. *purchase*, *drink slowly* v. *sip*, on the level of lexico-grammar, etc. In this sense Systemic Grammar is congruent with the Stratificational Grammar of Sydney Lamb. The content plane is thus organized into components labelled as METAFUNCTIONS: IDEATIONAL, INTERPERSONAL and TEXTUAL, which, respectively, construe human experience, enact intersubjective relations, and organize information, hence "grammar creates its own parallel Universe in the form of discourse."[41] Grammar utilizes various resources: segmental, prosodic, textual, etc. Therefore, the term systemic-functional appears to display various senses (or, rather, aspects). First, it concerns the mode in which languages evolve (topological, diachronic, adaptive). Secondly, it concerns language in terms of organically conditioned interpenetration presenting itself through mutual cross-dependencies along and across the dimensions of the expression plane. Thirdly, it applies to a whole range of registers (social, stylistic, fields of discourse, diachronic, stylistic, etc.). Given its prominence to discourse, hence also text, social contexts are to be viewed as organic and dynamic configurations, and register, functional variation in language is to be interpreted as 'systemic variation'. It comprises spoken and written texts

[38] Halliday (1995: )[in:] Koerner and Asher [eds.] and Halliday, Michael A. K. 2004. *An Introduction to Functional Grammar*. Third Edition Revised by Christian M. I. M. Matthiessen. London: Arnold. and Fisiak (1975: 50–52).

[39] Matthews (1997).

[40] Halliday (1995: 272)

[41] Halliday (1995: 273)

(medium and channels) and commonsense, technical and literary language (domains of discourse, styles and genres, formal v. informal registers). Halliday himself sees great potential behind the Systemic Theory. He sees possible applications of the theory for natural language processing or sign language, and also points to the potential of systemic grammars to explore other semiotic systems, such as visual arts, corpus data and language-based educational programs.

By virtue of the spectrum assumed by the structure of this paper (namely: structural, functional, generative and cognitive), we need to mention, however in a cursory manner, the existence of two other important functionalist approaches as they express antireductionist stances and vitally reflect organic and ecologically valid properties, namely ROLE AND REFERENCE GRAMMAR of Randy G. La Polla and Robert D. Van Vallin[42] and Simon C. Dik's FUNCTIONAL GRAMMAR.[43] The former clearly marks the central/nuclear position of the verb in the clause. The notions of the CORE arguments and the nucleus (verb) and PERIPHERY (circumstantial elements). These allow explorations into multiple of functional dimensions (e.g. evidential aspects, modality, nominalization, etc.). Role and Reference Grammar is vividly engaged in the flow and mutual exchange of a range of ideas and conceptions addressed earlier in the survey. Dik's Functional Grammar, very much like Halliday's Systemic Grammar, assumes the organic conflation between semantic participants and syntactic relations, for example, Agent/Subject, Instrument/Subject, Patient/Object, Patient/Subject, etc. and incorporates the Theme/Rheme allocation as an expression of information dynamism. It stands in full agreement with the two-fold nature of the content-form relation within the Semiotic Sign, and also projects itself, by analogy, onto the bi-polarity of the Symbolic Unit (the Phonological Pole interfacing the Semantic Pole) as is proposed in Cognitive Grammar.

TEXT LINGUISTICS, the label that was dubbed in the title of the book by Allain de Beaugrande and Wolfgang Dressler (1981),[44] an evergreen in fact, appears to constitute a holistic approach to texts of any genre or length, conversation, speech, poem, novel, newspaper article. The stance is grounded in the traditions of the Prague School and the London School, the Systemic Theory, in particular, and utilizes current, at that time, developments in research on knowledge structures and information processing. Language is treated as *a problem-solving* activity, incorporating dense parallel processing.

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[42] Van Vallin and La Polla. (1997).

[43] Matthews (1997)

[44] Beaugrande de and Dressler (1981).

TEXT LINGUISTICS proposes a set of principles that regulate and organize textual behaviour. Regulative principles, namely, *efficiency, effectiveness* and *appropriateness*, ensure economy of effort and the matching of setting and manners. Constitutive principles (also known as textuality criteria), cohesion, coherence, informativity, intertextuality, intentionality, acceptability, situationality define the stability of a given textual occurrence. They can be summed up respectively, in terms of (a) surface grammar, dependencies, junction and co-reference (pro-forms, ellipsis, parallelisms, paraphrases, and the like), (b) knowledge and concepts, world knowledge stored in mind[s] and text knowledge as presented in text[s], to be processed relative to declarative and procedural types, the latter encapsulated in the so-called *global pattern* organization: frame, schema, plan and script (also known in other literature under such labels as cultural models, cognitive models or scenarios), (c) information dynamism, involving degrees of known and unknown (given vs. new) information, distributed according to the *theme/rheme* allocation, that is between the highest and the lowest degree, (d) intertextual activation through formal or semantic associations between texts ('echoing' other texts, triggered off by word-play, in quotations or footnotes, in parody or allusion, etc.), (e) intentions involving the attitude of the addresser and (f) potential attitude or acceptance on the side of the addressee, both of which, respectively involve the use of *speech acts* (as goal-oriented strategies specified in a plan) and *co-operation maxims*, (requiring discovering of the plan of the addresser and providing co-operation), whereas (g) the situation of a given textual occurrence (involving *participants, place and time*) concerns mainly situation *monitoring* and situation *managing*, the latter materialized in the so-called *plan-box escalation*, an agenda spanning the spectrum/stages between full co-operation and politeness on the one end, and overpowering, on the other. Text Linguistics offers a fully organic and ecologically valid body of organizing principles. It draws upon real data and offers itself to real-data analysis and processing, interpretation and creation.

In its treatment of real-language data as well as its commitment to European structural-functional tradition Text Linguistics stand in opposition relative to the Generative Approach. Text Linguistics meets the criterion of ecological validity also drawing upon the Systemic Theory, through its commitment to cohesion, coherence and information structure.

## The Generative Approach and the flow of ideas as the pendulum swings

By way of contrast, let us now consider the role of Chomsky's GENERATIVE APPROACH, which appeared on stage in 1957, along with *Syntactic Structures* and, later on, *Aspects of the Theory of Syntax, Standard Theory, Extended Standard Theory*, having evolved steadily throughout the decades, has prevailed to this day in its Minimalist Program mode.[45] In general, the generative stance can be viewed as an inevitable springboard for opposing reactions that emerged in a parallel fashion. In this sense the Generative Approach, beyond its own goals, became a catalyst forming alternative ideas. Today, given the hindsight perspective, this claim seems unquestionable. We can assume that if it had not been for the Generative Approach, it would be hard to imagine shifts toward semantically-oriented stances. For instance, the GENERATIVE SEMANTICS debate (George Lakoff, James D. McCawley and J. R. Ross)[46] constituted an early attempt to formulate the priority of meaning to be the basis of what was understood at that time as 'deep structure'. Componential Analysis in lexical semantics owes a lot to this debate, which is remembered in such celebrated examples as [*kill*: to cause someone to die] & [*die*: to become not alive]. At the same time (late 1960's) Charles Fillmore's contribution to the conception of Deep Cases slowly opened up a semantically-oriented drift, which later on was most notably expressed in his CASE GRAMMAR and FRAME SEMANTICS (along with the classical '*commercial transaction frame*' model).[47] As a result George Lakoff, equally effectively and consistently, came to represent a strong semantic orientation, as he is today one of the leading theoretical figures of COGNITIVE SEMANTICS, along with Leonard Talmy, Eve Sweetser, Mark Turner, Mark Johnson, Gilles Fauconnier and many more. Similarly, Ray Jackendoff's position, since the X-BAR SYNTAX MODEL (proposed along with Selkirk), also moved towards a semantically-oriented position, most notably expressed in his conception of *Semantic Structures*. The inevitable swing of the pendulum reversed the order of priority relative to Chomsky's autonomy-of-syntax position, which today can be best grasped by the following formula championed by Cognitivists, and also expressed vividly by Talmy Givón[48]: PRAGMATICS → SEMANTICS → MORPHOLOGY

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[45] Radford (1981) and Radford (1997) and Fisiak (1975: 122–127)
[46] McCawley (1995: 343–348) [in:] Koerner and Asher [eds.].
[47] Anderson (1995: 352–364) [in:] Koerner and Ahser [eds.]
[48] Givón (1979)

→ SYNTAX. In other words, experience and its conceptualization have priority relative to their relevant linguistic expression. However committed to the computational model of mind, Jackendoff situates language within the domain of cognition (in the psychological and phenomenological sense).

It needs saying regularly despite its reductionist apparatus, a priori formalism, modularity and its commitment to the autonomy of syntax, GENERATIVE and TRANSFORMATIONAL GRAMMARS propelled long-standing, valued and animated discussions on the status of language, its locus and emergence. The history of ideas, stretching for the celebrated examples, such as: *The colorless green ideas… John is easy v. eager to please…*, *Flying planes…*, etc., cannot escape the keen eye of someone who observes the field of language study as a constantly evolving enterprise.[49] It is important to note that many 'off-shoots' of the generative theory, especially, detailed discussions emerging from particular examples, invented or real, gave rise in fact to 'organically-oriented' reflections on the treatment of language. And it is not only the 'organic' and 'ecological' aspect of language-as-an-object-***of***-study, but also the 'organic' and 'ecological' nature, in its own terms, of methodology-as-a-tool-***for***-the-study of language that is the case. The shift towards the aforementioned semantically-oriented positions (Generative Semantics, Deep Cases, X-Bar Syntax) was a vital contribution in the paradigm shift on the scene of American Linguistics, which coincided with the already existing naturalistic, systemic and functionally valid positions in Europe and Australia, gave rise the emergence of cognitive and functional linguistics as we know it today. Therefore, no matter how controversial the generativist stance might appear to be, we still need to acknowledge its sound contributions of the time, regarding the 'innate' status of Universal Grammar[50] [or lack of it], or the modularity of mind and syntax and their autonomy [or lack of it]. Also the issues of productivity and creativity in language involving the production and comprehension of novel utterances (propelled by such syntactic operations as *linearization, hierarchical structuring* and *recursion*), or the debate on the status of *competence vs. performance* (echoing in fact, *la langue vs. la parole*), etc., inevitably shade into still unresolved questions.

Returning to the early stages of the Generative Approach, most notably known under the rubric of TRANSFORMATIONAL GRAMMAR,[51] it is appropriate to remind the conceptions which demanded imagination and

[49] Newmeyer (1995).
[50] Chomsky (2005) and his conception of 'language organ'.
[51] Harlow (1995) [in:] Koerner and Asher [eds.]

intellectual discipline. The conception of the Base Component (Lexicon and Phrase Structure Rules) constituted the springboard for transformational operations, from the Deep Structure to the Surface Structure. Transformations were classified into *obligatory* and *optional*, and a set of transformations required rigid ordering in the generative-transformational process.[52] As has been said, since the time of the Standard Theory (1965) Generative Grammar evolved gradually to what we now know as The Minimalist Program. Transformational operations were finally abandoned and substituted with so-called 'movement rules'[53], and in successive stages of the Principles and Parameters Program[54] we witness a consistent self-critical attitude of Noam Chomsky himself, as he was ready to admit any shortcomings of a given [preceding] stage/theory and proposed new solutions. In this sense, the generative approach methodologically constitutes a dynamic phenomenon and an example of a-theory-in-the-making. The Extended Standard Theory, like some of the European schools discussed here, equally well addressed the problem of valency projections (cf. *John refused to leave vs. John's refusal to leave*),[55] and its later versions formulated constraints of movement rules (cf. *Down the street rolled a ball*),[56] or *topicalization operations* (cf. *Our daughters we are proud of*).[57] Also many other questions, such as local transformations and structure preserving transformations[58], all added flavour to broad discussions *within* and *beyond* the paradigm, and, as has been said, echoed multiple phenomena addressed within functional perspectives, information dynamism, semantic participant/role allocation, and the status of grammar as such, iconicity in syntax, to name a few, later on broadly adopted by Cognitive and Construction Grammars.

As has been said, it is Charles Fillmore's Case Grammar and Frame Semantics[59] represent the leaping stride away from strictly syntactic orientations towards semantic orientations. Fillmore's observations equally well addressed and echoed the problems of valency and semantic role

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[52] For example, *Reflexive Transformation was required before NP-deletion in Imperative, or: Equi-NP Deletion required Relative Pronoun Insertion*, etc.

[53] Andrew (1997) and Matthews (1997) see: *move-alpha*, also involving empty categories and traces.

[54] Radford and Matthews (1997), see: *Principles and Parameters, Government and Binding and Theta-Roles*

[55] As in: (reported by Harlow [in: Koerner] 1995).

[56] As in: (reported by Harlow [in: Koerner] 1995).

[57] As in: (reported by Harlow [in: Koerner] 1995).

[58] Consider respectively: *Particle Movement* and *Passives, Raising, There-insertion or Dative Movement*, and also so-called Island Constraints.

[59] Fillmore (1985)

allocation.[60] As Anderson points out Fillmore furthered explorations to such details as: *to melt*: S/Agent+V-tr+O/Patient and S/Patient+V-intr., and also the oppositions between *to like* and *to please* relative to Experiencer and Stimulus roles. Fillmore's observations, as reported in Anderson, also opened up a need for a deeper reflection on sense relations, especially regarding polysemy (*I am warm. The jacket is warm. Summer is warm. The room is warm*. By way of association, also note Austin's: *healthy exercise* vs. *healthy bodies*.[61] Even though highly independent, Charles Fillmore came to be a cognitive linguist. Now the stage is set for *Cognitive Linguistics*, another theory-in-the-making.

## Cognitive Linguistics. The state of the art.

Cognitive Linguistics is grounded on the assumption that language organically constitutes general cognition, mind is embodied, and experience is holistic due to the immersion of individual organisms in nature and culture. In other words, language fully utilizes the potential inherent in general cognition. Therefore some of my remarks voiced earlier in this paper, e.g. on the perceptual cycle and autonomous v. peripheral processing appear to form a good example of mutual compatibility of cognitive psychology and cognitive linguistics.

COGNITIVE GRAMMAR, created and represented by Ronald W. Langacker[62], proposes an integrated and coherent model of language-within-cognition based on gestalt principles guiding perception and meaning construction, where *figure-ground* alignments and *scanning operations* provide rudiments for lexical and grammatical constructions. Conceptual entities comprise THINGS, with relevant *profile* and *base* alignments, and RELATIONS, which are represented by non-temporal or temporal modes (*atemporal relations* and *processes*), which utilize the conceptions of *trajector* and *landmark* alignments. Assuming the fundamental concept of the *Symbolic Unit* (with its *Semantic Pole* and *Phonological Pole*) the model follows the semiotic tradition grounded in the conception of the Semiotic Sign. Linguistic form[s] are taken to be distributed along the spectrum which

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[60] Anderson (1995: 352–364) [in:] Koerner and Asher [eds.]

[61] Reported by Lakoff (1987)

[62] Langacker (1995: 364–368) [in:] Koerner and Asher [eds.] and Langacker, Ronald (1990, 2000, 2005, 2009). Also: for a detailed survey of Cognitive Grammar see: Skrzypczak (2006: 100–116).

utilizes the continuum of: phonology, morphology, lexicon, and syntax on the side of the Phonological Pole (Form). They interface with the Semantic Pole (Content) relevant to the level of complexity of a given constructional portion, best illustrated by Langacker's example of: an-electric-pencil-sharp-en-er. Meaning construction, also known as *construal operations* (alternatively: focal adjustments or dimensions of imagery) involves such parameters as: *schematicity, scope, prominence, perspective, abstraction* and *selection*. They can account for both the so-called lexical level and grammatical level. Grammar is taken to be imagistic in nature (*grammar is image*) and construal operations utilize processes similar to 'camera work', such as view-point/ point of access, focusing/granularity, zooming operations, real and virtual motion, etc. Cognitive Grammar constitutes a highly coherent theory. The model is ecologically valid due to its commitment to usage instances. The model also respects the ecology of social and cultural environments, hence also fits the requirements imposed by pragmatic phenomena. COGNITIVE GRAMMAR, which is in fact a classical version of CONSTRUCTION GRAMMARS, is consonant with the stances of Adele Goldberg, William Croft, the figures most frequently associated with the latter label.

COGNITIVE SEMANTICS, represented by a range of theoretical figures, George Lakoff, Mark Johnson, Eve Sweetser, Mark Turner, Gilles Fauconnier, Leonard Talmy[63], stems from the tradition grounded in multiple disciplines, which provided confluent modes of viewing language, general cognition and environment. Main contributions constituting this framework originate from such disciplines as experimental psychology, anthropology, mathematics and philosophy, which respectively provided insights stemming from research on natural categorization by prototype (Eleanor Rosch), research on colour perception (Brent Berlin and Paul Kay), research on kinship systems (Floyd G. Lounsbury), fuzzy set theory (Lotfi A. Zadeh), and also semantic observations on polysemy (John Austin). Cognitive Semantics acknowledges the *gestalt*, hence organic, nature of meaning construction and its commitment to the claim of Ludwig Wittgenstein that 'meaning is use'. In this sense Cognitive Semantics constitutes a discipline which meets the criteria of ecological validity to the utmost, in all possible dimensions, as it treats language as being immersed in general cognition, general cognition being bodily connected.

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[63] See: Lakoff, George (1987). Johnson (1997). Sweetser (1990). Talmy (2000). Turner (2001). Fauconnier (1985). Fauconnier and Turner ( 1996, 1998) For a detailed survey see: Skrzypczak (2006: 72–99)

Cognitive Semantics is known most widely for its concern with the conceptual status of metaphor and metonymy, and the status of mental processes by way of transitions between mental spaces and selective projections of input mental spaces in the process of blending, which is bound to explain novelty and creativity. The Theory of Conceptual Metaphor, proposed by Lakoff and Johnson, extensively developed over the decades, assumes the fundamental role of cross-domain and intra-domain mappings in thought, imagination and language. Mental Space Theory and the emergent Conceptual Integration Theory (Fauconnier and Turner) add importantly to the overall achievements of the paradigm. Both areas throughout decades developed reliable tools to explain multiple seemingly diverse phenomena, such as morphology and grammar, mathematical thinking, poetics, cultural models, frame operations relative to neurological processes, compression and global insight, scripts, rituals, social discourse, political discourse, humour, reference and presupposition, just to name a few.[64] The Cognitive Semantics enterprise fully meets the criterion of ecological validity as it offers descriptive and explanatory power to account for the complexity of psychological and social reality. The tools that can be well applied to the study of other semiotic domains, such as visual arts or music. In this sense the stance offered by Cognitive Semantics meets the refinement of the ecological validity of the so-called 'thick description' proposed by Clifford Geertz,[65] the main theoretical figure of the interpretive stance in anthropology. As Turner[66], the leading theoretical figure in cognitive metaphor and blending, elegantly demonstrated throughout his book *Cognitive Dimensions of Social Science*, Geertz's accounts on rituals, such Balinese cock-fighting, for example, can be explored and explained with the use of the mental space blending phenomena, known also as Deep Play. In this way both stances appear be mutually compatible and wholly fulfill the conditions required by the criteria of ecological validity in the study of language and culture.

## Conclusions

A quotation of a few lines crafted by Halliday seem to fit best this, final, stage of the paper. His words grasp the guiding conception to the hilt – of *the*

[64] Fauconnier, Gilles (1985) and Fauconnier and Turner (1996, 1998).
[65] Geertz (1973)
[66] Turner (2001)

*organic* nature of language and *the ecologically* valid nature of his version of linguistics, when he writes[67]:

> A characteristic approach we are adopting here, that of systemic theory, is that it is *comprehensive*: it is concerned with language in its entirety, so that whatever is said about one aspect is to be understood always with reference to the total picture. At the same time, of course, what is being said about any one aspect also contributes to the total picture.

Below, in hindsight, I propose a provisional checklist for further considerations and re-examination of the issues in question. It constitutes the following aspects:

1. Epistemological orientation regarding the status of method (rationalist vs. empiricist), in other words, speculative theorizing vs. experimental/observational
2. Epistemological orientation regarding perspective (objective vs. anthropocentric)
3. Epistemological orientation on the status of language (e.g. physicalist vs. mentalist)
4. Ontological orientation in terms of fact vs. value (e.g. quantitative vs. qualitative)
5. Attention to the type of data (e.g. real usage vs. invented examples)
6. Attention regarding the nature treatment of levels of language organization (modular vs. systemic)
7. Attention to the form-content interface (e.g. grammar-meaning)
8. Attention to context and culture (e.g. utterance-context)
9. Attention to adequacy (descriptive, explanatory, interpretive, predictive)
10. Applicability of an approach or theory (linguistics and other fields, e.g. *literature, visual arts, music*, and domains of discourse: *legal, medical, political, philosophical*, etc.)

The above emerged naturally in retrospect and still require a sharper discipline in a rigorous delineation between language as the object of study and tools as the method of study.

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[67] Halliday (2004:19)

To round off this survey let us ponder on a quotation on the nature of language as a phenomenon, which was attempted by Joan Bybee in the opening lines of her book[68]:

> Sand dunes have apparent regularities of shape and structure, yet they also exhibit considerable variation among individual instances, as well as gradience and change over time. Languages differ from one another while still being patently shaped by the same principles ."

I can say that the conceptions of the organic nature of language as a phenomenon and the ecological validity of linguistic methodological stances seem to be alive and well. And it is a secure conclusion. What we can also securely predict is that we can expect… more change , as language changes as we change, and we change as the world changes.

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