The Experiential Dynamic Correlates of Linguistic Meaning: A Formalized Subjective Perspective Model

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Abstract

This article addresses the genesis of the linguistic meaning, and its roots in experience. It attempts to generate a formalized model of meaning-making through a discursive review of the scientific bases for a fine-grained shortlist of the correlates and variables relevant to the process of meaning-making using language. This formalized model derives its theoretical foundation from the main postulates of theories and models in the field to sketch such correlates, preserving their subjective essence and dynamic interface through upholding the seminal theoretical premises from cognitive linguistics. The construct of Perspectivisation developed by cognitive linguists represents the benchmark of the Formalized Subjective Perspective Model. This formalization represents an impeccable template for meaning decomposition and elaboration in many applications such as, IT formal semantics, machine translation, teaching foreign languages and translation training

Keywords: Cognitive semantics, meaning-making, linguistic meaning, perspectivization, modeling, formalisation.

1. Introduction:

The genesis of the experience-rooted linguistic meaning represents a venue of a thought-provoking academic thriller. This article delves deep into the hazy parallel between linguistic meanings and human experiential concepts. It seeks to establish a formalized model of the process of meaning-making at the interface between the two. Meaning making does not stop at consuming the relationship between language and the world but extends to cover the individual who conceptualizes this relation. However, this language-concepts interface is normatively systematized using "grammatical organization which crucially makes use of notions such as 'Perspective', 'subjectivity', or 'point of view' " (Verhagen, 2012: 48). The model offers a metathesis on the systematized forms and dynamics of how language representation attunes to fit the world experience or categorized the world to fit to the word. The semantic model of meaning-making, to the present work, requires a key cognitive component, "perspectivisation", responsible for its subjectivity (Langacker 1987, 2007; Talmy 2001; Maclaury 1995; Stein & Wright, 1995, Traugott, 1995).

It is because of language it becomes naturally possible to record the present, recollect the past, and register our anticipation of the future.Using natural language, the infinite novel meanings that humans can make anytime inspired numerous programs with such paradigms to develop various perspectives on the nature, mechanisms and constraining principles of meaning-making. However, no single program with such paradigm could ever claim that it covers everything about it (Schiffer, 1989). The discontinuous scope and point of focus of such programs with such paradigms only allow discursive accounts. Our formalized semantic model evolves from bringing together ideas from various research programs and paradigms, like a jigsaw pieces, to design a model with a broader scope and dynamic point of focus.

The theme of this research was stimulated by the encounter with the impeccable formula, *Lewin's formula*. Kurt Lewin (1890–1947), in his Psychological

Field Theory, proposed a simplistic but very suggestive formula, usually referred to as Lewin's formula as in (i):

i. ***B= ∫(P, E)*** *..(if applicable to meaning-making)*

(∴ for an individual, (a) to mean by x , where x could be anything like sign, icon, word, image or concept; so, Lewin's formula becomes)

ii. ***B(x)= ∫(P, E)***

Humans constantly engage in an act of meaning-making (linguistic or conceptual), ***B****(x)*, whose value is a function of ***P***, the subject state of mind in ***E,*** context. Before we unpack the right-hand side of the formula, we need to define the left-hand part of the equation, ***B***. The conceptualization of meaning resides in cognitive processing of perception, categorisation and modeling of the world to abstract semantic structures.

Semantic structures are conceptualizations whose symbolized forms overtly manifest the property of being. According to Langacker, (1987), the symbolic structures should incorporate the semantic structures, "a symbolic structure (∑) resides in a link between a semantic structure (S) and a phonological structure (P)" as illustrated in Figure (1), adopted from (Langacker, 1987:15)

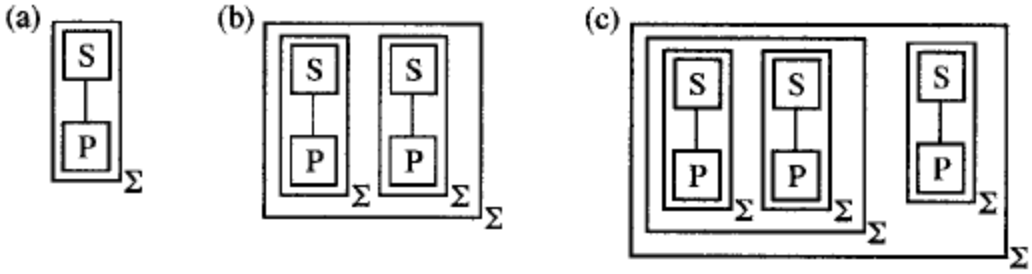

Figure (1): A semantic structure (S) and a phonological structure (P)

The parameters along which the semantic structures of a symbolic structure (∑) vary are 'Perspectivization', 'subjectivity', or 'point of view' and the detailed characterization. Such parameters configure the interface between form and content at different levels of the conceptual hierarchy.

1.1. Word as Representation Correlates

The nature of relations that bind words to what we call meaning is variable among the existing paradigms. The linguistic units, words, are the explicit instructions to access areas of protean conceptual contents (Evans, 200). Such access areas are what psychologists call memory, semantic knowledge, episodic and procedural (Baddeley & Hitch 1974). The point here is that semantic knowledge is obtained through the process of *Concept Formation* that involves perception, categorisation and modeling with the help of language. If the material facet of meaning is "memory", for instance, the understanding of the meaning of the word "school" is nothing but the memories associated with the word "school". Human semantic knowledge includes not only knowledge about the words and how grammar composes and constrains them, but higher-order concepts are formed and acts are performed, knowledge of how to act (*scripts of actions*).

The problem with Materialist paradigms, in opposition to "psychologism", is the idea that the essence of meaning is causally dependent and even reducible to the physical world e.g., signs, words, ontologies or physical responses, as measurable elements. Materialism philosophy puts forward an analytic and naturalistic conception of linguistic meanings as the "primary bearers of truth conditions" with sole reference to its logical and epistemological status, i.e., '*propositions*' (Becker & Thomson, 2019).

Frege contributions, brought to fruition by Husserl, rallied crafted influential materialist (anti-psychologism) theses. As Dummett states, Frege believes that there is hardly anything "psychologistic" about meaning and launched a set of views that dominated the philosophy of language in the 20th century. For him, meaning resides in the way that the term is employed, i.e., '*mode of Presentation*' (Dummett, 2001:456-59). However, I believe that the construct "mode of Presentation" in itself is psychologistic as it, at least, involves a developmental phase and a sort of intention underlying the mode. It seems, that the primary physical layer of meaning starts at the level of categorisation of such words into nouns, verbs, adjectives, etc. Words

are representations of meaning '***r***' within a language '***R***'. After all, knowing the meaning of a word (*r*), at least, allows knowing the distinction between *word* "*r*" and *non-word* "non-*r*".

For de Saussure (1959) language is initially a system of symbols (p 118) whose structure resides in the relation between the *signifier* "word", s*ignifié* (object) and the relational content of the two, i.e., *signifiant* (meaning): The premise that the word makes sense and the word has meaning can be formalized as follows:

iii. $B(x) = \sum_{r}^{R} x \mapsto \int(x)$; $B(x)=r$
(where $\int(x)$ is the systemic value (syntagmatic and paradigmatic); r is a sign and R *is language system; $r \in R$)*

However, the fundamentally overwhelming argument of Saussure was the characteristic "*arbitrariness*" of language symbols in relation to meanings or concepts. The arbitrariness of language can be broadly divided into two types, where the first is corollary to the second. The first type of arbitrariness mainly concerns the form and content of words while the second type is a differential relationship within the language system that de Saussure called "*Langue*". Consequently, the essence of the linguistic signs is the "*value*" (interpretant) based solely on intangible relationships:

> "concepts are purely differential and defined not by their positive content but negatively by their relations with other terms of the system. Their most precise characteristic is in being what the others are not". (p 117).

This makes words relations to other words in the system an unnatural measure for segmenting the outside world: no word to world fit is implicated.

For de Saussure, the value of a word is its 'meaning', although this equation does not fit well with the way the American structuralists look at it. Peirce (1977), on the other hand, took the semiotic argument to a much natural direction as the iconic and indexical properties of his sign are partially anchored in human senses. Therefore, it becomes possible to talk about the tangible relationship between sensory modes and linguistic forms. Pierce view can be formally described as:

iv. $B(x) = \sum_{r}^{R} x \mapsto \int(x)$; *where $B(x)=v$ (x is a value of r that has 'v', "value", bases in the sensory experience)*

It is important to note that "knowing the world by '*interpretation'* is central to Peirce's thinking. Each symbol element is classified into three types based on its relation to the object: icon, index and symbol. Peirce's 'symbol' is equivalent to Saussure's 'signs'.

Once famous, and today less frequently cited, the most radical thesis of linking language to world is the one, proposed by Sapir and Whorf. It is usually referred to as the '*Radical Relativity Thesis'*. The basis for upholding Sapir and Whorf's radical thesis remains untenable on the determination of the system of concepts and categorisation, however there are empirical data on the influence of language on categorisation. This influence is likely to be secondary: language does not determine the act of categorizing itself, rather it integrates the effects of categorisation into a broader whole. How far could the language shape categorisation is relative, so accepting the Sapir-Whorf thesis is a matter of degree.

Sapir, held a strongly holistic understanding of language, as an integral formal means of designating the individuals' personal and cultural experience (something similar to '***P***', in Lewin's formula. In any case, it is necessary to make a completely special or perceptually special setting, and these differences have their psychological correlates. (Pourcel, 2005). To Sapir, what is relative is not thought processes, but instead, the encoding and understanding of the concept (Sapir, 1949:38).

Whorf took Sapir's views further and formulated the relationship between consciousness and language, stating that language is "shaper of ideas", "support categorisation" and "organize our minds by means of the linguistic systems (Ibid: 234). However, for Sapir and Whorf, it is world-to-word fit: they initially assign language the authority to categorize the world. Not in the radical sense of Sapir's relativity thesis, however, this makes:

v. $B(x) = \sum_r^R x \mapsto \int(x * r)$; $B(x) = w^r$; $R \subset (X)^{x_1 \ldots x_n}$
(where $w^r \in \mathbf{R}$ *the world of concepts)*

For the psychologism paradigm, the meanings of words exist as complexes of categories that reflect the properties of the subsets of the world, directly derived

from the world or indirectly from the words that categorize it.

vi. $B(x) = \sum_r^R x \mapsto \int(x)^w$; $B(x) = a_w$ *(where a_w reflects the agent's world view of W)*

The conflict between 'psychologism' and 'materialism' on language and its meaning was primed by Katz and Postal, (1964) and Chomsky (1972; 2000). With the syntactic/semantic representation interface, the Generativists sought to construe a view of meaning akin to Frege's senses, an interpretive view of the semantic theory which must start somewhere in the syntax of the sentence. The agent's world represents only a part of a more universal world (a_U), therefore the individuals would usually say less than what (s)he means, so "r ≈R", the meaning at the deep structure outweighs the surface.

vii. $B(x) = \sum_r^R x \mapsto \frac{R}{(a+b)^2}$; $B(x) = a_U$

(where "a,b"∈ r ; r ≈R' ; R' is the competence or language system residing deep in the mind, while r is the agent's (a) performance)

1.2. The Psychological Correlates

The "psychological" view argues that the meaning is a human psychological state of mind and experiences. It is typified by the equivalence between "meaning=image" and "meaning =concept/theory": (Kosslyn, 1980, 1994; Pylyshyn, 1981, 2002; Paivio, 1986). The problem with image theory is that an image is usually an image of a specific thing that can vary considerably among people. The image-based view fails to account for abstract meaning (Rehder & Ross, 2001; Kiefer & Pulvermüller, 2012).

According to Berlin & Kay (1969), the colour category is partially embodied by human physiological conditions. In Rosch (1973), the focal colour of the basic colour is regarded as a typical color of each colour category. Similarly, the same can be said about material and shape. Helen Keller's famous discovery of "water" is often talked about on the theme of the segmentation of the world through the mesh of the tactile sensation and kinaesthetic sensation in her daily life experiences. Concept formation was never "unnatural". Keller had some knowledge of the outside world before learning the language and was able to communicate to some extent by

gesturing. It took the form of listening to the name by pointing (touching) something that was known in advance, rather than learning the segment of the outside world by learning the name (Gardner, 2006).

As far as the meaning of the word, in using the word "dog", it is required to have the perception of x an entity in w whose typical attributes ($att_1..att_n$) that differentiate it from the attributes of a cat (dogs and non-dogs):

viii.	$\boldsymbol{B = \int(P, R)}$ *where* x:: $\leq \boldsymbol{a_w} / \boldsymbol{r}$ (*where* x:: *is what* a_w *intends to mean*)
ix.	$B(x) = \sum_r^R x \int (a, w)$ $B(x)=a_w(x)$ *where a is the subject as an agent of*

An agent knows how to systematize the properties of his own experience into certain categories. The superordinate category determines the membership of subordinate members based on the most significant properties, structured in the mind and at the same time defines an open set of members $\{x_1 \ldots x_n\}$ in the sphere of the superordinate category $\boldsymbol{X} \subset \{x_1, \ldots . x_n\}$, then:

x.	$\boldsymbol{a_w} \Leftrightarrow \mathbf{X} \cap x$, where $a_w(x) = \{x{:}x \in X\}$

Even if you do not express "apple" in terms of its 'color: red', 'shape: round', the attributes, e.g., [red] and [round] become intuitively understood, therefore included in the typical knowledge of "***APPLE***". So, a category structure depends on the specifics of the modeling phase of experience, supported by rational reflection (synchronisation and update) on the environment.

xi.	$\boldsymbol{W \subset X}$; $\boldsymbol{X} \subset \{x_1, \ldots, x_n\}$; $x \cap \boldsymbol{X} = \{att_1, att_2 \ldots att_n\}$ (*where* ***att*** *is attribute*)

With regard to natural categories, we have more chances of success than in semantic categories. For the semantic categories, the situation is complicated by the fact that most words have several meanings. Which of them claims to be a semantic center or which attribute is more primed or foregrounded than the others?

The categorical meanings can change depending on the nature of the linguistic personality, P=a_w. From the standpoint of cognitive linguistics, this is quite understandable (Schmid, 2012: 67). The subjective component of the model needs to be incorporated. The meaning of the linguistic expression reflects what the subject (agent or conceptualizer) intends to mean and most importantly how?

The principal cognitive research inherits the existential stance which can be truncated to key concepts like 'mental world', 'focalization' and 'subjectivity': how does the subjects experience, process, make sense, represent, and focalize the world? The study distinguishes between the focalized world, the world as perceived by the subject's based on his/her relationship to the word by means of the linguistic meaning. However, this is not entirely individualistic; rather, socio-cultural constraints that come into play since the early stages of childhood.

1.3. The Social Correlates

The intervening variables in meaning-making are social: meaning must be "public" (Frege, 1952). The nature of language is characterized by the definition that "Language is a symbol that is systematically created by members of society. For use in communicating meaning to each other language gives rise to the learning process" (Goodenough, 1981: 19).

For Quine (1960) a language user is a conscious agent whose consciousness is represented in the form of a practical realization of his existence in relation to communication, speech, behaviour and stereotypes. Quine proclaims the "*indeterminacy*" thesis and the "*inscrutability of reference*". A reference is meaningless until it is correlated with a coordinate system. It is the subjective side of interpretation that determines the possible multivariance of semantic contents. In this regard, representation is set forth as a process of transforming information while preserving its invariant meanings for the variant conceptual structure[1].

The concept, then is formed through the interaction of, perception, categorisation and modeling which we linguistically represent. New experiences or representations of experience constantly reorder their semantic content (concept formation). This is achieved in relation to the perception and reconstruction of the world (***w***) at a point of time (***t***). Categories represent complexes, that are naturally

[1] Quine's original text, "...two men could be just alike in all their dispositions to verbal behavior under all possible sensory stimulations, and yet the meanings or ideas expressed in their identically triggered and identically sounded utterances could diverge radically, for the two men, in a wide range of cases. (p. 26)

invariable to agents, but their characteristic variability resides in what is expressed by the language in ***t***. How the temporal variable intervenes in promoting subjectivity can be represented as:

xii. $P(x) = \sum_{r}^{R} x\ (a_w)^{t} \mapsto x::$ (*where x:: is a state of mind of x at a point of time* ***t***)

Our states of mind of the world are likely to change over time (t). One of the sources of such variance is derived from the 'Perspectivization', 'subjectivity', or 'point of view' and the detailed characterization. The purpose of proposing a semantically dynamic model is to account for the production and interpretation of more rugged contexts of meaning-making process, constrained by a set of dynamic variables at different points of time.

People construct infinite meanings using their semantic knowledge, developed over time. However, the semantic knowledge does not determine objectively the production and interpretation of meanings, as intended by the speaker and his interlocutors at any point of time. Davidson (1986) states that it is necessary for those who engage in everyday conversation to have some level of semantic abstraction manifested as "*prior theories*" and "*passing theories*" that the speaker/hearer starts out with when making meaning. Meaning-making will not succeed unless the simulations of the way their words as intended to be understood (*prior theories*) and the meanings assigned to such words (*the* speaker's/interpreter's passing theory) converge (Davidson 1986: 100-101; Green, 2001). This implies that such theories about the states of the world remain provisional. The prior theory and the passing theory undergo a constant process of synchronization that explains how human "semantic knowledge" evolves over lifetime. Then, the word's meaning and the semantic knowledge are placed in mutually intermediary phases of conceptualization by making queries, searches and recalls of knowledge, inferencing, etc., to make familiar and novel meanings.

Obviously, in this way, the dynamic nature of meaning-making process triggers processes of semantic knowledge reorganization and updates. The meaning

correlates of x undergo the speaker's/hearer's amending and updating based on the prior and passing theories as expressed in the following

xiii. $B(x) = \sum_r^R x \int (a_w, i) \mapsto a_w^i$ $B(x) = a_w^i$
(where a_w^i is *s/h* 's interpretation derived from the verification of prior and passing theories)

$\mathbf{I}_w$ is the prototypical interpretation of w, based on the available prior theories. i^s (the speaker) and/or i^h (the hearer) passing theory starts up with, where $\boldsymbol{V}_x$ is the value assigned to a_w^i at a point of time $\boldsymbol{t}$. This constitutes the very phenomenal definition of subjectivity in relation to the process of meaning-making.

In naturally occurring meaning-making contexts, the mismatch, between i^s (the speaker) and/or i^h (the hearer) theory is very likely due to a mismatch between the values $\boldsymbol{V}_x$ assigned to a_w^i(x) at a point of time $\boldsymbol{t}$ by the two.

To account for the subjective variance of the concept formation, it becomes necessary to bootup Langacker's notion of "Perspectivization" that fits well with the proposed model formalization.

2. Cognitive Semantics Modeling: Perspectivization

Based on cognitive semantics, the involvement of human sensory modality in developing, amending and updating human semantic memory is exceptionally vital. Such involvement is obviously apparent in that some words assume a rather schematic knowledge, directed anchored in the very spatial configurations or physical uses. Other assume frame structures with agency and spatial and physical coordinates specific to the experiences of events constitute the major part of our knowledge, (e.g., Endocentric and exocentric verb typology, *buy and sell* ; see Talmy, 2000).

The contextual and cognitive components need to be incorporated in the very process of meaning-making. The situation should be interpreted as it appears to the subject (Schmid, 2012). The main components of the causal analysis of the perceived attributes of the world elements (reflected upon by the subjects) functionally constrain their actions (Gibson, 1979).

The approach of understanding meaning as "image", "action", "concept" or "scene" pursues the very nature of meaning naturally produced in context. The theoretical premises and research methodological designs rationally embrace the complexity and protean nature of meaning. One of the seminal constructs to define and explain meaning-making is a "***Subjectivisation of Perspective-Taking***" and "***point of view***" by Langacker, (1987).

Making another reference to Lewin's formula, $B = \int(P, E)$, the proposed model needs to define the "***E***" variable, "*the ecological affordance*". To maintain the naturalness of the "meaning= concept" approach, we need to endorse first the natural "physics" of the "world". At that time, it is necessary not to overlook the bounded cognitive aptitudes of human subjects. The process of meaning-making is bounded for the constraints imposed by their embodied cognition (Lakoff& Johnson, 1999; Barsalou, 2008; Cedric, 2017). Human subjects can only process what they choose not everything they see or know: however, if they cannot take it all, they don't necessarily leave it all. But how do they make decision on their choices? The answer is by making conscious and rational choices they attend to a collection of spatiotemporal elements constituting a "perspective" (P_w).

xiv. ***(P, E)*** = P_w (where $P_w = (a_w^i)^t$ *based on the verification & convergence of prior and passing theories*)

Langacker (1987) argued that expressions perform grammatical functions by virtue of the interface of grammar and experience. Does grammar need to be further explained by referring to the mechanisms and contents of human perceptual experiences in the composition of events and movements? The dependence of linguistic properties on cognitive processes opposes the two theses of generative grammar: (1) the thesis about the autonomy of the grammatical component in relation to the semantic and pragmatic ones; (2) the thesis about the inborn linguistic competence. To Langacker, the dynamic nature of meaning-making should be defined in terms of the possibility where the individuals could variably capture

different elements of the context of the world, ***E***. All linguistic units are to some extent context-dependent as the context necessary to characterize this semantic unit that is called a domain.

Our sense faculties provide a plurality of core domains. The ordering of the conceptual universe must refer to experiential potentials, rather than to the current symbolic representation of concepts in the minds of language users. By definition, the primary domains are at the bottom of the hierarchy of conceptual complexity: they are the components of the primordial space of representation necessary for the emergence of any detailed conceptual account. DOMAINS, for Langacker, "are necessarily cognitive entities: mental experiences, representational spaces, concepts or conceptual complexes" (1987: 147). The primary domains are usually characterized in relation to three properties. The first is (ir)reducibility to more fundamental conceptual structures. The second is dimensionality. Last is location or configurability (Ibid). Langacker explains that the distinction between location, or a point in a domain, and configuration: the ability of the subject's perception - perceiving a set of points as a homogeneous group with a specific location. Although the limit of this ability varies, it is strict in specific cases (p. 153). To explain grammatical phenomena, Langacker (1987) proposed a number of basic configurational concepts, such as *Profile, Focus, Perspective, Landmark* and *Trajectory*. The context of the world assumes the same spatio-temporal configurations but with different *profile* and *focus*. How space is given to it depends on its shape and perceiving movement of a moving body with defined landmark, destination and trajectory (Gardenfors, 2000).

The terms TRAJECTOR and LANDMARK denote the poles of the relation, they are entities assuming variable degrees of prominence within the profiled relations, (Ibid: 70). Domains are the source of basic conceptualizations when it comes to the referential function of language, but of course, language is not just about referring. The relationship between the two-stage sentence structure is the "Predicate-Prediction" which comes down to Profile-Base conceptual structure.

PROFILE, FOCUS and BASE, which together form the meaning Here, I write the terms "profile" and "base" in lowercase, just like objects, because they are essentially theoretical subjects.

The perspective focuses on the dynamics of the physical experience, framed by the cognitive grammar of the language. The cognitive mechanism of perspectivization is what corresponds to the image that appears in a person mind with a panoramic vision, stretching in front of him. Perspectivization (Langacker, 1987: 70ff), refers to a range of fundamental developments in cognitive linguistics: Langacker's Theory of Profiling; Talmy's Attention Focus; Fauconnier and Turner's Theory of Conceptual Integration. Langacker assumes the existence of higher-order *abstract domains*: "Any non-primary domain, that is, any concept or conceptual complex that functions as a domain in the definition of a higher-order concept, will here be called an abstract domain". Langacker's "*Abstract domain*" is similar to "*Idealized Cognitive Model*" (Lakoff, 1980), "*Frame*" (Fillmore, 1992), "*Scene*", (Minsky, 1974), or even "*Script*", (Schank And Abelson, 1977).

To incorporate such theoretical constructs with the formalization in xiv, the present work proposes, a more detailed formalized model of the correlates of the linguistic meaning. The model is referred to here as subjective perspective model (SPM).

3. Subjective Perspective Model (SPM): Formalization

The proposed model formalization derives its theoretical foundation from statements (**i-xiv**) introduced previously as anchor points for a more dynamic view of the semantic structures of a schematically configured meaning-making. Langacker (1987) defines schematicity as "the process of extracting the commonality inherent in multiple experiences to arrive at a conception representing a higher level of abstraction.) (p.17).

SPM is inspired by Gibson (1979) idea of "ecological realism and ecological psychology", where "meaning" can be formalized in terms of state transition system. This makes it possible to seamlessly handle each movement, situation elements recognition, and focus shift in discourse. The profile corresponds to the space-time occupied by the actor, , the space-time occupied by the subject, the space-time that the actor is focusing on: where perspective is (P_w), focus (Fc_w) landmarks (Lm_w), trajectory(Tr_w), and path direction (di_w) in cognitive semantics. This notion is linked to Clark's concept of common *ground*[2] (1996; Stalnaker, 2002). The SPM is schematized as shown in Fig.2.

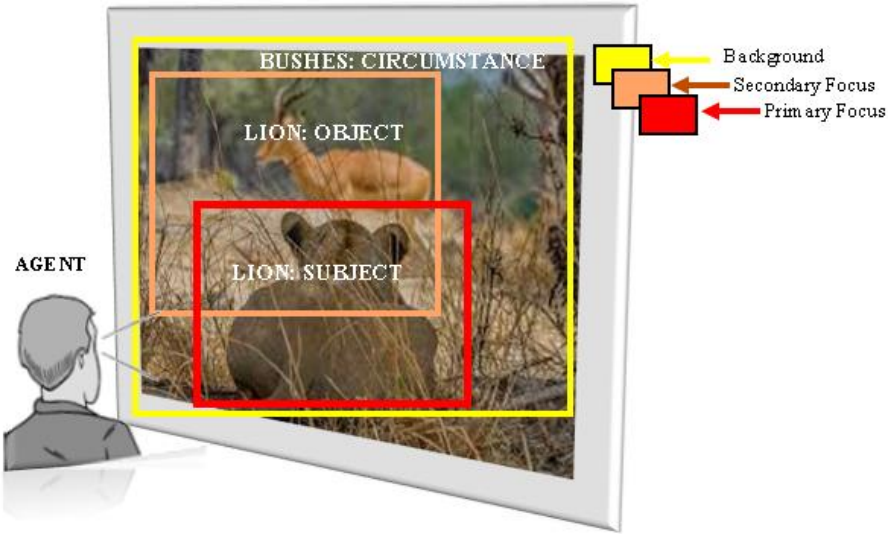

Figure 2: Profile-focus perspectivization

The Conceptualization of meaning unfolds through processing space and time (spatio-temporal correlate) which constitute the core of subjectivisation of the agent state of mind (perspective) at a point of time. For instance, in the following examples,

في العراق وصلنا إلى مرحلة خطرة وحرجة في مواجهة فيروس #كورونا
In Iraq, we arrived to a dangerous and critical stage in facing coronavirus

A schematized arrangement with spatiotemporally configured perspectivisation and focus and prominence which can be represented as:

[2] two types of common ground are identified, namely communal common ground and personal common ground (Clark 1996: 100ff).

$P_{w=}[\boldsymbol{di}_w[(Lm_w)$Event "وصل" $[Fc_w[$Thing X "نحن"], $[(Tr_w)$, "الى مرحلة خطرة"]$[(Pr_w)$[Place "في مكافحة"][Thing Y "فيروس كورونا"]]]]

The immediate context for the conceptualization of meaning of language use, incorporates different semantic roles, spatio-temporal correlates, arranged into a perspective. The " Subjective" perspective is the relationship between the agent and the "path direction and spatiotemporal" coordinates of the object of focus. How could the world be perceived, segmented and recorded is defined by the perceiver focus. Such a model that we call the **Subjective Perspective Model (SPM)**.

xv. $B(x) = \sum_r^R x \int (a_w, i) \mapsto a_w^i \ / \boldsymbol{P_w}$ (*where* $\boldsymbol{P_w} \in \boldsymbol{E^w}$)

as

xvi. P_w=[[[[[$di_w[Pr_w$, $[Fc_w[Lm_w,[Tr_w]]]]]]$],

then,

xvii. $B(x)= a_w^i$ /[[[[[$di_w[Pr_w$, $[Fc_w[Lm_w,[Tr_w]]]]]]$],

This reads as a_w^i is the individual's prototypical state of mind in particular spatio-temporal settings, $\boldsymbol{E^w}$, including a_w(agent), P_w(perspective-seek), Fc_w(focus), Tr_w(trajectory) Pr_w(profile), Lm_w(landmark). P_w is the spatiotemporal inclusion relation in $\mathcal{W}$, and $\boldsymbol{E^w}$ is a segment of $\mathcal{W}$ in $\boldsymbol{t}$ (time). r_w is the word-world representation while W_r is world-word representation. The di_w is the relative path direction of the locomotion dynamics, as seen by a_w(agent) in $\mathcal{W}$.

4. Model Application: Analysis

It has been shown that SPM's analytical capability is robust that it could handle a wide range of human experiences and infinite naturally produced language use. Assigning semantic value to linguistic expressions, the conceptualizer embraces a

unique perspective whose sets of spatio-temporal correlates are modulated based on his/her $(a_w^i)^t \subset \{\mathbf{i}_1,\ldots.\mathrm{i}_n\}$. The SPM proposed offers formalized instructions to build simulated analyses to natural language driven by ecological and social type models, passing theories of the world.

Finally, SPM will be used to analyse a tweet that was selected simply because it is on a hot topic, COVID-19 which turns out to be a bridge to another topic, CORRUPTION. The example offers language that makes the intangible categories tangible with reference to experiences, private and public.

Tweet (1): Two things, no cure or vaccination was found for them till now #Coronavirus and Mafias of corruption in #Iraq

The tweet can be formally represented by this notation:

xiv. $B(x)=\dfrac{a_w^i}{[[[[[di_w[Pr_w,[Fc_w,[Tr_w\ [Lm_w]]]]]]]}$

$$B(x)=\frac{\neg\, a_w^i \text{ vaccination/elimination (virus /corruption)}}{[[[[\ di_w \mapsto [Pr_w \text{Iraq}[Fc_w \text{Coronavirus/mafias[Dec,2019/2003}[Tr_w \text{ UK/China/Russia}[Lm_w \text{ Iraqis}]]]]]}$$

The insertion of the numeral "two" was extraposed, thus makes up the perspective which assumes two elements more (prominent): Coronavirus and Corruption. The focus points coronavirus/corruption mafias were presented bilaterally for which no (¬)vaccination/elimination were found. The locomotion of Covid-19 outbreak in (late Dec., 2019) from the source in Wuhan in China as the landmark of the trajectory to a destination "Iraq population", or within a more global scene (Iraq health and political scene of their everyday life).

The grammar of the linguistic meaning in this tweet is intrinsically schematic

with specific dynamics of locomotive direction, through the granularity of spatial dimension. In the first construal of the background, a three-dimensional space matrix (evoked by "in Iraq" where Iraq is a Container space with the three dimensions) is offered with possible diminishing effect for its outward trajectory path of an object "Coronavirus". The spatiotemporal dynamic coordinates of Coronavirus outbreak scene assume a complex trajectory evoked by its exogenous cause/origin/ impact on Iraqis as patients and reverse trajectory invoked by the schematic content of the verb "go". The inverse trajectory is prompted by the configurations of the function word "with", specifying an INSTRUMENT role, "a mask and alcohol".

5. Conclusion

Formalizing a model for the process meaning-making (concept-formation, representation and interpretation) goes beyond modeling words' meaning (linguistic meaning). However, the linguistic meaning remains inescapably necessary for representational function. Based on the theoretical premises discursively selected from a spectrum of paradigms and programs to build up a dynamic model that incorporates cognitive components with varying specificity. The experiential benchmark for the proposed model is supported by the notion of concept formation that stems from the human subjects, in ecological interaction with the world. A bipolar process of fit (world-to word and inversely word-to-world) in making meanings utilize inbuilt rational aptitudes: perception, categorisation and modeling. Human aptitude of concepts formation at the word-level, extends to discourse and action, resulting in the formation of action scripts that maintain the dynamics of human subjects' experiences. Langacker's theoretical repertoire of constructs of construal, perspectivization, focus, etc. serve as a ground for a formalized model of the subjectivity of concept formation (meaning-making). This formalization represents an impeccable template for meaning decomposition and elaboration in many applications such as, IT formal semantics, machine translation, teaching foreign languages and translation training

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الاحداثيات الديناميكية للتجربة الادراكية لتكوين المعنى اللغوي: من اجل صياغة نموذج رياضي للمنظور ذاتي

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المستخلص
تتناول هذه المقالة بالبحث في نشأة المعنى اللغوي، وجذوره في التجربة الادراكية. يهدف هذا البحث تصميم أنموذج رياضي منطقي لعملية إنشاء المعنى وفهمه وتحليله عن طريق مراجعة استطراديه لبعض الأسس والمتغيرات ذات الصلة بعملية إنشاء المعنى وفهمه وتحليله باستخدام اللغة. يستمد هذا الأنموذج الرياضي المنطقي أساسه النظري من الافتراضات الرئيسية لبعض النظريات والنماذج في ميدان البحث الدلالي لرسم العلاقات المنطقية، للحفاظ على جوهر المعنى الذاتي والديناميكي عن طريق تبني المباني النظرية الأساسية من اللسانيات المعرفية. يمثل مصطلح "بناء المنظور" ومبانيه النظرية، الذي طورها اللسانيون المعرفيون، معيارًا للأنموذج الرياضي المنطقي المقترح. يمثل هذا الأنموذج الرياضي المنطقي وسيلة قابلة للتطبيق في تحليل جوهر المعنى الذاتي الديناميكي في العديد من التطبيقات المرتبطة باللغة مثل تكنولوجيا المعلومات والتدريب على الترجمة والترجمة الآلية وتعليم اللغات الأجنبية.

الكلمات المفتاحية: الدلالات المعرفية، تكوين المعنى، المعنى اللغوي، التجربة الادراكية ، المنظور، النموذج رياضي