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LANGUAGE: captured ‘live’ through the lens of dialectics

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ABSTRACT

This paper advocates a holistic, dialectical approach to human language. The narrow focus of traditional analysis on fixed aspects of the multifaceted nature of Language cannot capture its creative energy – the “whole is more than the sum of its parts” (Aristotle: *Metaphysics*, Book I).

By viewing the complex phenomenon of human language in its essential *organic* unity, interconnectedness, change and evolution, dialectical reasoning elucidates the interrelationships between the dualities and contradictions of Language, thus revealing its Rational Mechanism.

I use a synthesis of Vygotsky’s ‘Analysis into Units’ and David Hume’s generalizations concerning human understanding as the ‘lens of dialectics’ that alone has the power to capture it ‘live.’ I argue that Language is Verbal Thought and that, therefore, the mechanism of abstract thought (generalization) is the driving force that naturally shapes all the diverse grammars of the world’s languages. Generalization, I contend, is the Rational Mechanism of Language in all its manifestations; it is the key to a deeper understanding of Language, its creative energy, and the ‘behavior’ of its physical structures over Time.

The conception of language as a system of social signs, which is continuously created by the collective mind of the society, and which individual speakers use to spin their own ‘webs of significance,’ has far-reaching implications for such traditional areas of linguistic research as syntax, semantics and pragmatics, sociolinguistics, historical and comparative linguistics, and, in particular, for our understanding of creolization / grammaticalization processes.

After a brief discussion of ‘meaning-as-use’ and the ultimate ‘indeterminacy’ of meaning, I propose a new form of syntactic analysis (a *generalizing* analysis, or G-nalysis) which uses the universal principles of human thought to unravel the intricacies of inherently ambiguous linguistic structures.

Key words: word-meaning, dialectics, generalization, cognition, grammar, logic, resemblance, contiguity, cause/effect, synthesis and analysis.

If languages had a mechanism which were entirely rational, that mechanism could be studied in its own right (Saussure).

THEORETICAL CONTEXT

The dualities of human language have historically frustrated our attempts to understand its complex nature, for trying to describe the constantly changing forms of language is much like attempting to determine the shape of a cloud whipped by high winds. Ferdinand de Saussure’s solution to this intractable problem was to ‘freeze’ language in time, taking ‘tangible,’ ‘concrete’ snapshots of its

physical structures, and disregarding all other aspects of its complexity: ‘Science which studies linguistic structure is not only able to dispense with other elements of language, but is possible only if those other elements are kept separate’ (Saussure: 1983).

In the last one hundred years, the zoom lens of descriptive analysis has revealed a lot of in-depth detail of the physical structures of language; yet, the living energy of its organic, changing whole has eluded all description. Fixed snapshots may only produce cartoon animations; they can never give us a video footage of the living organism: ‘The whole is more than the sum of its parts’ (Aristotle: *Metaphysics*, Book I). I will use the wide-angle lens of dialectics to capture Language ‘live,’ in its interconnectedness, movement, development and change.

THE LENS OF DIALECTICS

The dialectical view of language is based on a synthesis of Vygotsky’s ‘Analysis into Units’ (Vygotsky: 1934) and David Hume’s dissection of the nature of human understanding (Hume: 1748).

Lev Vygotsky (1896-1934), maybe by virtue of his professional expertise in psychology, argued that Saussure’s narrow focus on ‘concrete’ linguistic structures leads us down the garden path of subjective judgments, all of which inevitably distort the true nature of the living and complex WHOLE of Language. Using an organic compound (water) to illustrate his point, he argued that, in order to understand any complex organic structure (such as Language), we must study the properties of its smallest unit. Just as the properties of a molecule of water (H₂O) are different from the properties of its constituent parts (hydrogen and oxygen), so the properties of Language are different from the properties of its physical structures. ‘A word without meaning is an empty sound: meaning, therefore, is a criterion of word,’ wrote Vygotsky in his ground-breaking work, ‘Speech and Thought’ (Vygotsky: 1934). For this reason, ‘word-meaning’ is the smallest unit of Language, argued Vygotsky – it embodies all the inalienable properties of the ‘whole.’ These properties include

- **Physical:** sounds and structures; sound production and sound perception. Yet, a word without meaning is not a word of Language.
- **Psychological:** meaning – ‘every word is a generalization, an act of thought’; ideas come into existence through words:

*“But I forget what I to say so wanted
And fleshless thought dissolves in other shadows ...”*

Osip Mandelstam: *The Swallow* (1920)

- **Historical:** word-meanings live, grow, change, develop, evolve and die in human minds, and all minds exist in Time, the 4th dimension of all existence.
- **Social:** the double function of every Sign is (1) to communicate (2) meaning.

Vygotsky's assertion that 'every word is already a generalization and, therefore, an act of thought' fundamentally widens the scope of our inquiry, drawing in vital questions regarding the nature and function of thought: 'The conception of word-meaning as a unit of both generalising thought and social interchange is of incalculable value for the study of thought and language' (Vygotsky: 1934).

GENERALIZATION

As far back as 300 B.C., Aristotle defined wisdom as knowledge of the 'causes':

'We do not regard any of the senses as Wisdom; yet surely these give the most authoritative knowledge of particulars. But they do not tell us the 'why' of anything - e.g., why fire is hot; they only say that it is hot. ... Wisdom is knowledge about certain principles and causes' (Aristotle: *Metaphysics*, Book I).

Our experiences, connected in memory, engender knowledge, claimed Aristotle:

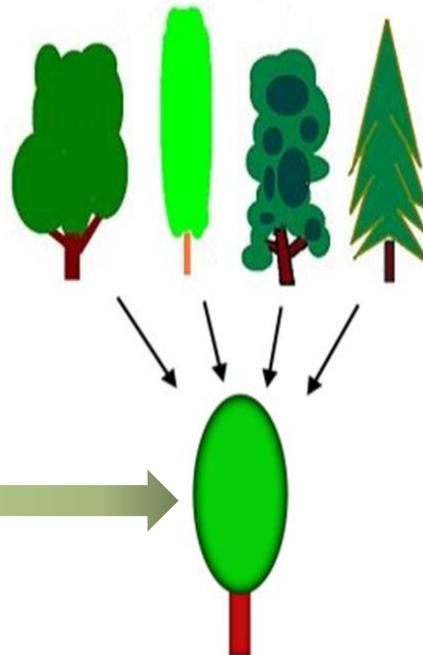
'...from memory, knowledge is produced in men; for several memories of the same thing produce finally the capacity for a single experience (Ibid.).

Words are those 'single experiences,' generalizations in the collective mind of the society, based on some similarity between multiple concrete experiences:

Aristotle's ideas reverberated hundreds of years later in the writings of al-Farabi, the great Mesopotamian philosopher of the tenth century AD: "The mind, in all its operations, exerts the function of synthesizing the many in the one" (al Farabi: A

Letter in Reply to Certain Questions, in Collection, op. cit. n. 14, pp. 95-96). He pointed out that

We cannot understand the meaning of a scene presented to our senses unless we unite its parts into a perceived whole. Perception is an act of the mind which involves synthesizing. The act of imagination involves both analysis and synthesis in the sense that nothing can be imagined without synthesizing the many in the one. The act of judgment, whereby one thing is affirmed or denied of another, cannot be had except by synthesizing both terms, subject and predicate, in one act of comparison. Syllogism, too, is simply the synthesis of two judgments in a third one. Of all these operations of the mind, the concept, more than all others, represents the synthesizing function of the mind, for the concept is by definition the apprehension of the one in the many (Hammond R., 1947:10).



Several memories of the same thing (connected in the mind because of their similarity) produce, finally, a single generic idea (sign) for all of them – a concept, a generalization. Societies, thus, shrink their ‘worlds’ into categories of ideas (word-meanings, generalizations): ‘The world of experience must be greatly simplified and generalised before it can be translated into symbols. Only in this way does communication become possible, for the individual’s experience resides only in his own consciousness and is, strictly speaking, not communicable. To become communicable, it must be included in a certain category which, by tacit convention, human society regards as a unit’ (Vygotsky: 1934).

It is abstract thought (generalization) that is the foundation of human consciousness, of the realization of our ‘separateness’ from the rest of existence. Verbal thought (thought in words) sets human language apart from animal communication systems: ‘The qualitative distinction between sensation and thought is the presence in the latter of a generalised reflection of reality, which is also the essence of word meaning: and consequently that meaning is an **act of thought** in the full sense of the term’ (Vygotsky: 1934). The nature of thought (and thinking) becomes, therefore, an integral and necessary part of linguistic investigation.

But how exactly do we abstract this ‘single experience’ (meaning) that encapsulates multiple concrete experiences connected in memory? Given the role of thought in human life, it is amazing that the nature of the process of generalization had not attracted much attention before the middle of the eighteenth century.

WHAT IS THINKING?

David Hume (1711–1776) was, by his own admission, perhaps the first philosopher to enquire into the mechanism of human understanding. His ideas about the workings of the human mind appear first in his *Treatise of Human Nature* (1740), followed by *Philosophical Essays Concerning Human Understanding* (1748), many later editions of which were published under the title of ‘*An Enquiry Concerning Human Understanding*.’ Having observed a remarkable similarity in the way that people connect ideas when communicating (in all times and places, and in all languages), he sought to determine the nature of these connections, and concluded that they follow a universal pattern:

Among different languages ... it is found, that the words, expressive of ideas, the most compounded, do yet nearly correspond to each other: a certain proof that the simple ideas, comprehended in the compound ones, were bound together by some universal principle, which had an equal influence on all mankind.

Though it be too obvious to escape observation, that different ideas are connected together; I do not find that any philosopher has attempted to enumerate or class all the principles of association; a subject, however, that seems worthy of curiosity. To me, there appear to be only three principles

of connexion among ideas, namely, Resemblance, Contiguity in time or place, and Cause or Effect.

That these principles serve to connect ideas will not, I believe, be much doubted. A picture naturally leads our thoughts to the original [1]; the mention of one apartment in a building naturally introduces an enquiry or discourse concerning the others [2]; and if we think of a wound, we can scarcely forbear reflecting on the pain which follows it [3] ... The more instances we examine, and the more care we employ, the more assurance shall we acquire, that the enumeration, which we form from the whole, is complete and entire:

[1] Resemblance; [2] Contiguity; [3] Cause and effect (Hume: 1748).

The Treatise of Human Nature, published earlier, explains how this simple universal mechanism of connecting ideas generates the infinity of human thoughts and opinions:

As all simple ideas may be separated by the imagination, and may be united again in what form it pleases, nothing would be more unaccountable than the operations of that faculty, were it not guided by some universal principles, which render it, in some measure, uniform with itself in all times and places. Were ideas entirely loose and unconnected, chance alone would join them; and it is impossible the same simple ideas should fall regularly into complex ones ... without ... some associating quality, by which one idea naturally introduces another. This uniting principle among ideas is not to be considered as an inseparable connexion; for that has been already excluded from the imagination: Nor yet are we to conclude, that without it the mind cannot join two ideas; for nothing is more free than that faculty: but we are only to regard it as a gentle force, which... is the cause why... languages so nearly correspond to each other; nature in a manner pointing out to every one those simple ideas, which are most proper to be united in a complex one. The qualities, from which this association arises, and by which the mind is after this manner conveyed from one idea to another, are three, viz. Resemblance, Contiguity in time or place, and Cause/ Effect (Hume: 1740).

Understanding (which Aristotle called “knowledge of the *universals*”) implies seeing how things relate to each other in terms of resemblance, contiguity in space and time, and cause/ effect; for example, anyone can dismantle an engine or a computer, but few can put it together again (to do that, we must know how the parts relate to each other, how they should be connected to form a complex system).

Thinking, therefore, is the process of abstracting compound meaning through connecting ideas by Resemblance (a friend’s picture reminds us of that friend), Contiguity in time / space (a friend’s personal belongings remind us of that friend), and Cause/Effect (when we see heavy clouds, we expect it to rain).

Vygotsky, thoroughly versed in dialectical materialism, viewed the process of thought (and everything else in existence) as the ‘struggle of opposites’; from this vantage point, he saw the mechanism of understanding to be both synthesis and analysis of ideas:

In order to form a concept, we must be able not only to connect, but also to abstract, to single out characteristic elements, and to view them separately from the ‘totality of the concrete experience in which they are embedded. ... In genuine concept formation, it is equally important to unite and to separate: Synthesis and Analysis presuppose each other, as inhalation presupposes exhalation (Vygotsky: 1934).

Despite the structural differences between thought and speech, which Vygotsky discussed in thorough detail, he argued that the universal principles of thought (synthesis and analysis) are also the universal principles of all human speech:

Every thought creates a connection, fulfills a function, solves a problem. The flow of thought is not accompanied by a simultaneous unfolding of speech. The two processes are not identical, and there is no rigid correspondence between the units of thought and speech. ... Thought is not merely expressed in words; it comes into existence through them. Every thought tends to connect something with something else, to establish a relationship between things (Vygotsky: 1934).

Conceptualization (cognition generally) is a complex process of both connecting and contrasting ideas. Synthesis and Analysis of ideas not only form the substance of each of our thoughts; they also shape our general perspective (understanding) of things. ‘We look with our eyes, but we see with our mind.’ What we see depends on the lens we use (wide-angle or telephoto); synthesis (WA) and analysis (zoom-in) are the two lenses of each ‘Mind’s Eye’; our focus (WA/ close-up) determine how we actually see things, depending on which of them predominates in our thinking. To illustrate my point, here are two snapshots of the same planet – Earth:



The Earth seen from Apollo 17
<http://en.wikipedia.org/wiki/Holism>

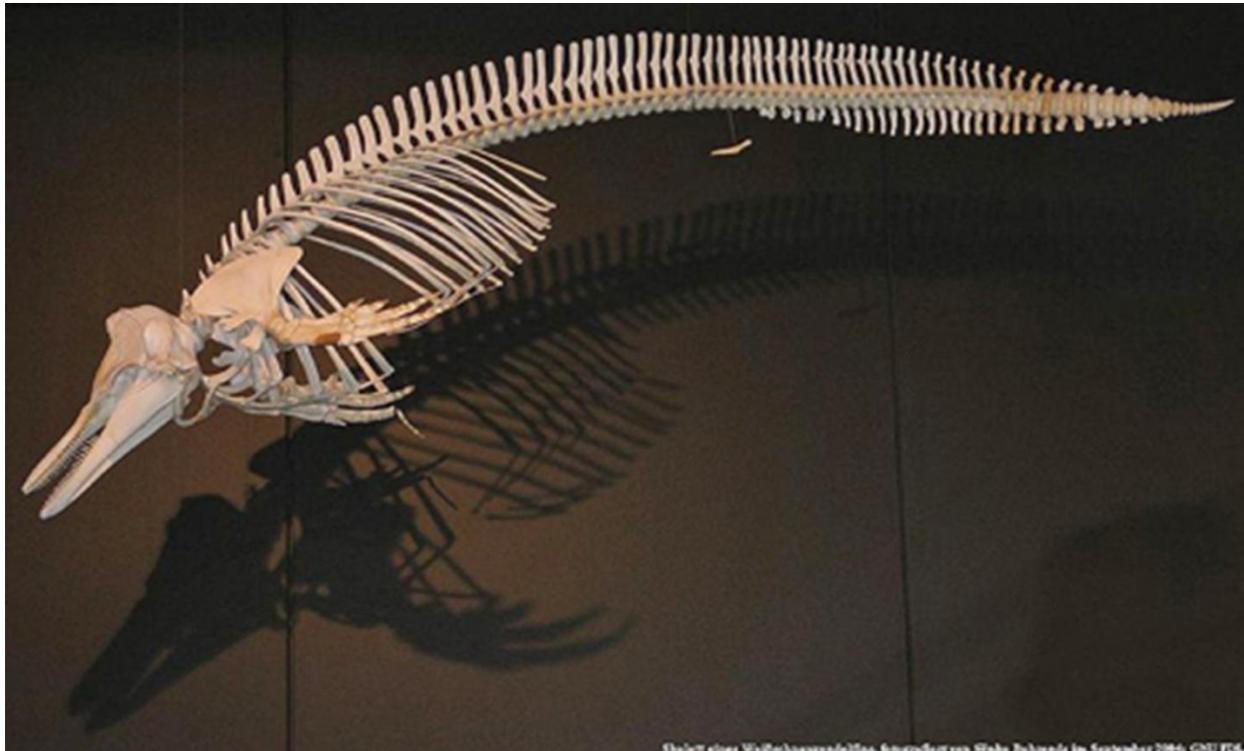


Parched earth resulting from a drought
<http://dampwater.tripod.com/id4.html>

Dialectics is the philosophy of change; through the WA lens of synthesis, it views things as a whole, in their essential interconnectedness, development, motion and change, thus capturing complex systems ‘live’ – in motion (i.e., the dolphins in the snapshot below):



Metaphysics (analysis), on the other hand, focuses on parts of the whole, and examines them in isolation from it (below is an ‘in-depth’ detail, *part* of one of those frolicking dolphins):



White-beaked dolphin skeleton. Source: Zoologischen Museum Hamburg/Soebecoearth.org

DIALECTICAL VIEW OF LANGUAGE

The WA lens of dialectics captures language in motion, in its conception by human minds; it captures the union of its interrelated psycho-physical and socio-historical dualities, all represented in *word-meaning*, its smallest unit. Viewing every word as already a generalization, an ‘ACT of THOUGHT,’ is a game-changer. It breathes life into linguistic structures, and revolutionizes the study of both syntax and meaning.

RELATIVITY OF MEANING – THE 3RD DIMENSION OF VERBAL THOUGHT

Viewing every word as an act of thought begs the question: “Who is the ACTOR?” In their struggle for survival, human societies developed their own ‘currencies of thought exchange’ (systems of denotative word-meanings).

Societies, however, live (and think!) in time; that is why “in the historical evolution of language, the very structure of meaning and its psychological nature also change. From primitive generalisations, verbal thought rises to the most abstract concepts. It is not merely the content of a word that changes, but the way in which reality is generalised and reflected in a word” (Vygotsky: 1934). The *act* of thought implies active generalizing by unique living and thinking minds (individual and collective). That is why word-meanings are ‘fluid’ – conceived by living minds, they germinate, live, grow, change, develop and die in them; even denotative meanings, crystallized in collective social consciousness, also change, along with it, over time – to paraphrase Protagoras, ‘MIND Is the Measure.’

‘FLUID’ MEANINGS

The mechanism of generalization¹ in the collective mind of the society drives all processes of semantic shift, lexical innovation, reanalysis and grammaticalization. Metaphoric and metonymic extension (which are nothing but associations by Resemblance and Contiguity) in living social minds cause the ‘fluidity’ of denotative word-meanings. Here are a few examples from the Online Etymology Dictionary

(<http://www.etymonline.com>):

Semantic Shift: Amelioration

NICE - late 13c., "foolish, stupid, senseless," from O.Fr. nice "silly, foolish," from L. nescius "ignorant," lit. "not-knowing," from ne- "not" (see un-) + stem of scire "to know." "The sense development has been extraordinary, even for an adj." [Weekley] -- from "timid" (pre-1300); to "fussy, fastidious" (late 14c.); to "dainty, delicate" (c.1400); to "precise, careful" (1500s, preserved in such terms as a nice distinction and nice and early); to "agreeable, delightful" (1769); to "kind, thoughtful" (1830). In 16c.-17c. it is often difficult to determine exactly what is meant when a writer uses this word.

¹ Association of ideas by resemblance (metaphor), contiguity in space and time (metonymy), and cause/effect

Semantic Shift: Pejoration

SILLY - O.E. *gesælig* "happy" (related to *sæl* "happiness"), from W.Gmc. **sæligas* (cf. O.N. *sæll* "happy," Goth. *sels* "good, kindhearted," O.S. *salig*, M.Du. *salich*, O.H.G. *salig*, Ger. *selig* "blessed, happy, blissful"), from PIE base **sel-* "happy" (cf. L. *solari* "to comfort"). The word's considerable sense development moved from "blessed" to "pious," to "innocent" (c.1200), to "harmless," to "pitiable" (late 13c.), to "weak" (c.1300), to "feeble in mind, lacking in reason, foolish" (1570s). Further tendency toward "stunned, dazed as by a blow" (1886) in knocked silly, etc.

Semantic Shift: Widening (by analogy/ metaphoric extension)

MOUSE – rodent vs. computer appliance; *drunk mouse* - When the pointer on your computer screen moves around wildly or irregularly, you are said to have a drunk mouse. This commonly happens when there is dirt inside the track ball area of your mouse.

deja moo – ‘the feeling that you've heard this particular bullsh*t before’

What are those bells ringing here? Why? These analogy examples are from Netlingo:
<http://www.netlingo.com/dictionary/d.php>

The current wave of linguistic change, triggered off by new technologies (the Internet, SMS, social networking sites such as FB, YouTube, etc.) is characterized by the mushrooming of acronyms in all languages. What causes the human minds to create acronyms (and even ‘backronyms’; Re: www.netlingo.com)? Associations by *Resemblance* to the first letters of the words, because (*Cause/Effect*) they habitually occur together (*Contiguity*)!

Put otherwise: when a group of words routinely occur together, the human mind associates them by their contiguity. The first letters of the constituent words will call to mind that particular phrase, simply because (*Cause/Effect*) of their Resemblance to the first sounds of the words in the sequence (*Contiguity*); i.e., OMG – Oh My God, LOL – Laughing Out Loud, DUI – Driving Under Influence, IYD – In Your Dreams; EOM – End Of Message; SWU – So What’s Up?, etc.

Here are a few other examples of the fluid nature of word-meanings from the Online Etymology Dictionary to illustrate semantic shift over time:

REANALYSIS (from more concrete to more abstract concepts)

ABLE - early 14c., from O.Fr. (*h*)*able* (14c.), from L. *habilem*, *habilis* "easily handled, apt," verbal adj. from *habere* "to hold" (see *habit*). "Easy to be held," hence "fit for a purpose." The silent *h*- was dropped in English and resisted academic attempts to restore it 16c.-17c., but some derivatives acquired it (e.g. *habilitment*, *habilitate*), via French.

AMBI- combining form meaning "both, on both sides," from L. *ambi-* "around, round about," from PIE **ambhi* "around" (cf. Gk. *amphi* "round about," Skt. *abhitah* "on both sides," Avestan *aibi*, O.E. *ymbe*, Ger. *um*, Gaul. *ambi-*, O.Ir. *imb-* "round about, about," O.C.S. *oba*, Lith. *abu* "both"). The PIE root probably is an ablative plural of **ant-bhi* "from both sides," from **ant-* "front, forehead" (see *ante*).

WHY - O.E. *hwi*, instrumental case (showing for what purpose or by what means) of *hwæt* (see *what*), from P.Gmc. **khwi* (cf. O.S. *hwi*, O.N. *hvi*), from PIE **qwei*, locative of **qwo-* "who" (cf. Gk. *pei* "where").

REANALYSIS (Grammaticalization)

In all languages, the more abstract 'grammatical' word-meanings evolved from more concrete lexical words; i.e., the so-called 'function words' – auxiliary and modal verbs, prepositions, etc.

In language contact situations, these same universal principles of human thought (generalization) have, in exactly the same way, created the grammars of new languages – creoles; for example, such grammatical items in Tok Pisin as the suffixes *-im* (< 'him', to indicate transitivity) or the adjective-forming *-pla* (< 'fellow'), etc.

Below is a collection of some Krio proverbs from Sierra Leone (West Africa), which my UPNG students translated into Tok Pisin in the past four years (2008-2011). Tok Pisin translations exhibit consistency of grammatical forms for expressing highly abstract grammatical meanings of mood, modality, tense, aspect, transitivity, subordination, causality, possession, etc. – the collective mind of the Tok Pisin speech community has 'generalized' ways of expressing complex abstract meanings, just like all other social minds have done. In the absence of common 'currency' of thought exchange, generalizing human minds create new ways to generalize, because that is how they think! Generalization Is the Rational Language Mechanism: the Logic of generalizing human minds underlies the structures of all human languages, and the examples below clearly show the ability of all three languages to express complex grammatical meanings.

KRIO PROVERBS TRANSLATED INTO ENGLISH & TOK PISIN

BAD BUSH NŌ DE FŌ TROWE BAD PIKIN

[English: There is no bad bush to throw away a bad child]

Em i nogat bus long tromoi nogut pikinini
 Inogat nogut hap long tromai nogut pikinini
 Inogat bus long tromow hambak pikinini
 Inogat bus nogut long tromoi pikinini nogut
 Inogat bus nogut lo tromoi nogut pikinini
 Inogat bagarap bus lo tromoim wanpela hambak pikinini

Inogat nogut bush long tromai nogut pikinini
 Inogat bus nogut bilong tromai nogut pikinini igo
 E nogat bus weh e nogut, bilong tromoi wanpla nogut pikinini
 I nogat wanpela nogut bus lo tromoi wanpela bikhet pikinini
 Inogat nogut bush blong tromoi ol nogut pikinini long en
 Nogat wanpela bus nogut stap lo rausim ol nogut pikinini (2011, Madang)
 Inogat bus nogut blong tromoim wanpela pikinini nogut
 I nogat bus nogut lo tromoim nogut pikinini

AS YU MEK YU BED, NA SO YU GO LEDŃN PAN AM.

[English: As you make your bed, so you shall lie on it]

Olsem yu mekim bed blo yu, yu mas slip antap
 Olsem tasol yu wokim bet blo yu, yu inap silip lone m
 Taim yu mekim bed bilong yu, yu ken silip antap long em
 Yu mekim bed bilong yu, olsem nay u slip
 Olsem yu mekim bet bilong yu, nay u ken silip
 Taim yu wokim bet bilong yu, yu inap silip
 Olsem yu mekim bed, yu bai silip long em
 Taim yu wokim bed bilong yu, em yu inap silip antap long em
 Taim yu stretim bet, bai yu silip long en
 Yu yet yu mekim bet blong yu, bai yu yet silip antap long en
 Taim yu wokim bet blo yu, orait yu bai silip antap long en
 Olsem yu mekim bet blo yu, em nau yu can slip long em
 Taim yu wokim bet bilong yu, clostu bai yu slip antap long em
 Yu wokim bed blong yu yet, nay u ken malolo long em (2011, Madang)
 Olsem yu yet mekim bed, orait yu yet silip long em
 Taim yu wokim bed bilong yu, dispela ken silip lo en.

YU KŔBA SMOK SOTE, I MŔS KŔMŔT

[English: No matter how you try to cover up smoke, it must come out]

Yu bai traim lo karamapim simuk, tasol em bai kam aut yet
 Maski yu traim lo haitim paia, em bai kam aut yet
 Maski yu traim long haitim simuk, em bai kamap peles kilia
 Yu ken traim long haitim smuk tasol em bai kam aut yet
 Wanem kain rot yu traim long haitim simuk, em bai kam aut yet
 Maski yu traim long karamapim sumuk, em bai kam arasait yet
 Hatt tru yu pasim sumuk, em bai kam outsait
 Maski wanem samtin yu wokim long passim simuk, em I bai kam out yet
 Yu ken taraim long karamapim simuk, tasol em bai e mas kam aut yet
 Maski yu traim long karamapim wanpela simok, em bai stil kam arasait
 Maski yu laik haitim simuk, em bai kamaut yet

PUSH-PUSH DE STŔP PAN WŔL [English: Pushing ends at the wall]

Pusim bai inap long wol
 Pusim bai stop long wol

Pusim inap nau/ Pusim stop long wol/ hap
 Pusim arere bilong wol
 Pusim igo pinis long wol
 Pusim wall igo lo as blo en
 Pusim pinis long kona
 Pusim I save pinis long wall
 Yu ken pusim tasol bai yu stop yet long wol
 Yu pusim, pusim, em go long wol em stop nau
 Push igo nap lo wall
 Wall save stopim samting yu pusim

IVIN WŌM SɛF KIN VɛKS

Even a worm can get angry (Enough is enough)

Tru olsem binatang inap koros (inap em inap)
 Na tu, ol binatang ken koros
 Binatang tu ken belhat
 Ol binatang tu save belhat
 Wom tu ken belhat
 Liklik sinek inap belhat tu
 Iven wom inap belat (inap em inap)
 Wom tu i save belhat
 Ol ot tu save belhat
 Ol wom tu can belhat (olsem na enap em enap)
 Em inap, ol man tu save coros
 Ol wom to i save kros
 Ol liklik snek tu ken kisim belhat
 Na tu binatang blong kraun iken kros
 Wom tu bai belhat

"IF A BIN NO," NA-IN DE LAS (NA-IN ɔ̃LWES DE BIɛN)

"If I had only known!" is always last (it always is behind)

Sapos mi bin save pas – em olgeta taim i save las oltaim
 ‘Sapos mi bin save!’ – em algeta taim em last (em algeta taim em behain)
 Sapos mi save! Em nogat
 Sapos mi bin save: em save altaim stap long baksait
 Sapos mi bin save, em olgeta taim i las
 Sapos mi bin save – em bai stap bihain olgeta taim
 Sapos mi bin tingim, em olgeta em biain
 ‘Sapos mi bin save!’ – em olgeta taim i save kam last
 Sapos mi bin save – em bai stap bihain
 Sapos mi bin save, em save kamap las olgeta taim
 Sapos mi bin save, em olgeta taim isa behain
 Sapos mi bin save, oltaim em i save kam las
 Sapos mi bin save pastaem, nau em last nau
 Sapos mi bin save – em las olgeta taim
 Sapos mi gat save – olgeta taim em sa kamap behain (2011, Madang)
 Sapos mi bin save longtaim, i behain oltaim.

Sopos mi bin sawe – em sawe stap las olgeta taim (2011, Madang)
 Sapos mi bin save, em bai olgeta taim bian

PEKIN WE NO YERI IN MAMA IN WOD, NA TRIT DO MEN AM.

English: A child who does not obey his Mother's word will grow up in the street.

Pikinini husait ino harim toktok blong mama blong em, pasin blong stap nating long rot bai
 painin em
 Supos pikinini I no harem tok bilong mama, em bai lainim pasim long rot
 Pikinini husait ino harim tok blong mama blong em, bai walkabout raun nabaut, nabaut
 Pikinini husait ino sawe harim tok bilong mama bai painin taim nogut long strit (2011, Madang)
 Pikinini husait no save arem toktok bilong mama save kamap sirit pikinini (2011)

Metaphor (analogy, association by resemblance/similarity), **metonymy** (association by contiguity in space/time), and **causality** (association by cause/ effect) are the 'sinews' of Generalization, the universal mechanism of human thought. Collective minds of speech communities create grammars (i.e., the socially assigned denotative word-meanings and rules of their combination) by categorizing their experiences of the world and by conventionalizing the use of reanalyzed content words infused with more abstract grammatical meaning. We see here how 'from primitive generalisations,' verbal thought has risen to more abstract grammatical concepts in Tok Pisin: 'olsem' & 'sapos' clearly derive from English 'all the same' and 'suppose.' The living, thinking social mind has reanalyzed the more concrete meaning because of similarity (resemblance) between them – it is not merely the content of a word that has changed, but the way in which reality has been generalized and reflected in the word.

In a refreshing break from the narrow analytical approach of purely descriptive tradition, Morten H. Christiansen of the Department of Psychology, Cornell University, and Nick Chater of the Department of Psychology, University College London, advanced a similar view, arguing that 'Language reflects preexisting, and hence non-language-specific, human learning and processing mechanisms' which 'provide a possible origin of grammatical structure from a proto-language initially involving perhaps unordered and uninflected strings of content words' (Christiansen & Chater: 2008). They concluded that 'Language, in all its diversity, has been shaped by the brain' and that most of language change and creolization arise from 'cognitive constraints on learning and processing' (Ibid.).

Dialectical linguistics views Language (verbal thought) as a natural product and reflection of the collective social mind; language evolves in society in the course of communication necessary for survival. This social function of language opens up yet another dimension of its fluid nature:

MEANING AS USE: THE WHOLE IS MORE THAN THE SUM OF ITS PARTS

“The universals are not things existing in themselves, but they exist only in individuals, and their existence is accidental in the sense that they are subject to the existence of individuals”

Al Farabi: *A Letter in Reply to Certain Questions*, in Collection, op. cit. n. 10, p. 94.

Language is more than the sum of its word-meanings and rules. It is a social TOOL, the spinning wheel

we use for spinning our infinite ‘webs of significance.’ How does it work?

Artists can create any kind of mosaic images by arranging colored tiles in different ways.

The mosaics on the House of Parliament in Port Moresby, Papua New Guinea, illustrate my point.

Like artists, we create complex meanings by arranging words into sentence mosaics.

Bhartrhari, the Indian scholar of the 7th century AD, believed the sentence should be interpreted as a single unit which “conveys its meaning ‘in a flash,’ just as a picture is first perceived as a unity, notwithstanding subsequent analysis into its component coloured shapes”

(Robins: 1997). Each sentence is not understood as a sequence of words put together: the full

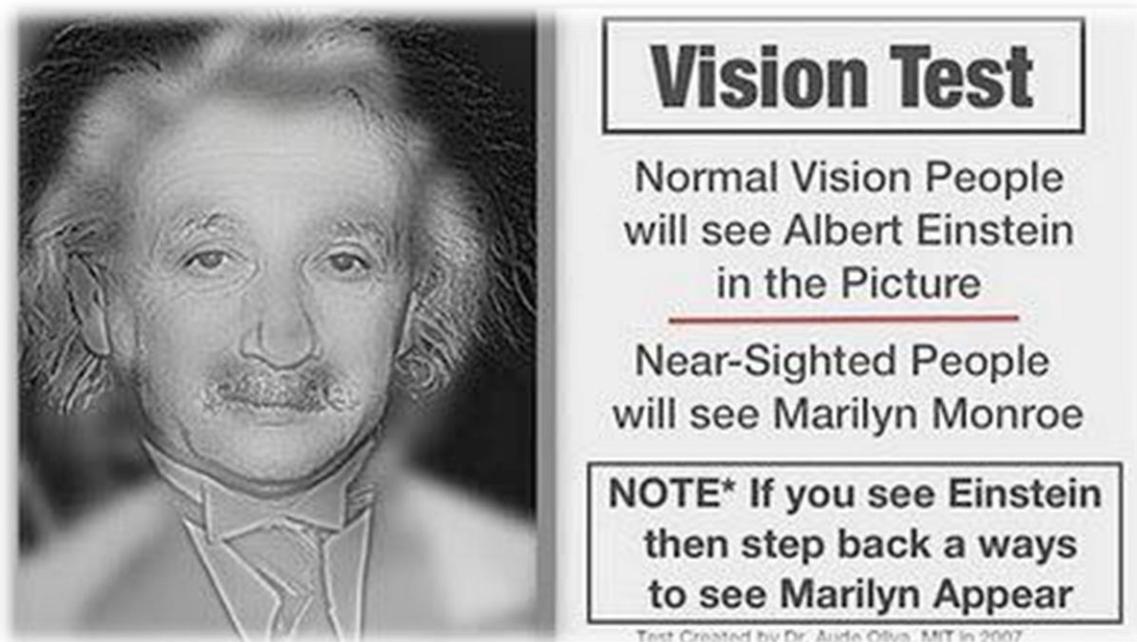
meaning of each word is only understood in the context of its relationship with other words around it.

Words are like tiles of different colors – what is the meaning of each of them? The meaning of each tile is its *use* in the mosaic: i.e., a dark brown tile could be a feather on one of those cassowaries, part of a man’s hair, a crocodile’s toe, a pig’s tail, or anything else the artist makes it. **How** the words are joined in the



nexus of the sentence creates the *meaning* of the mosaic. In the same way, words acquire their true meaning only in the nexus of the proposition, in the context of the composite whole of the sentence mosaic. Compare, for example, the meaning of ‘beef’ in ‘You always beef about this woman’; ‘Where is the beef?’; ‘You have a beef with me?’; ‘Your essay is good, but you must beef it up with facts,’ etc. ‘Meaning as Use’ is so fluid that that words and their meanings are often relatively independent of each other in the word ‘mosaics’ we make in live communication (the same brown tile can be used as part of a crock’s tail, cassowary eye, or the root of a tree in the mosaic above). The same utterances may convey different meanings, shaped by the circumstances of exchange, the relationship between the speakers, the tone of voice, overall idiosyncrasy of perception, etc.

Thus, yet another dimension of the fluid nature of word-meanings opens up when we consider the subjectivity of each Mind’s Eyesight. Despite all efforts to ‘fix’ and describe meaning in use, it is practically impossible do so by analyzing the ‘implicatures’ of already produced utterances – these exist in individual minds, living and thinking in Time, and the analyst is always just another mind’s vision. The ‘test’ below illustrates my point:



We all perceive the world’s mosaics with our own eyes and ears, and we ‘make sense’ of them only in our own heads. Each mind’s clarity of vision depends on so many factors – the sum total of one’s experiences, level of cognitive development, emotional/physical state, etc., as well as on the socio-cultural context and place/time of communication. The ‘mosaic image’ of a complex generalization (sentence meaning) is subjective to each mind’s eyesight (Einstein or Marilyn?); it depends as much on

the ‘color’ and patterns of the word-meanings making up the whole ‘image’ (proposition), as on the all the other variables (individual experiences and memories of the people who are trying to make sense of them, social and physical circumstances of exchange, etc.). This is why ambiguity is so inherent in all human languages. Meaning has no physical existence independent of the mind that conceives it. Despite the common ‘currency of thought exchange’ operating in every speech community (grammar), the subjectivity of each mind’s perception often results in ambiguity and difference of opinion – ‘Mind Is the Measure’:

‘There is nothing that is either good or bad, but thinking makes it so’

Shakespeare: Hamlet

We thus spin our infinite ‘webs of significance,’ but their TRUTH is measured only by physical reality.

GENERALIZATION – THE RATIONAL LANGUAGE MECHANISM

Thinking, we have established, is connecting ideas by resemblance, contiguity in space/time, and cause/effect into composite patterns/ mosaics of meaning. Thinking is a process, driven by the opposition between synthesis and analysis of ideas. In order to form a concept (i.e., *understand* something), we must be able not only to connect, but also to *abstract*, to *single out* its characteristic elements, and to view them separately from the “totality of the concrete experience in which they are embedded” (Vygotsky: 1934). I contend that, since generalization is the mechanism of human thought, it is also the mechanism of Language (which *is* verbal thought).

To measure the truth of this proposition, let us see whether the physical structures of the world’s languages bear out this hypothesis. Indeed, most basic grammatical concepts represent associations by resemblance, contiguity or cause/effect involved in the process of generalization; for example,

1. **Parts of Speech** (the functions of words in the sentence): nouns ‘name’ things on the basis of all three associations; finite verbs, in addition, carry the meaning of Time and connect to their subjects (associations by contiguity); adjectives describe nouns (association by resemblance); adverbs may describe adjectives /verbs (by resemblance) or describe either when /where an action takes place (association by contiguity), or why, for what purpose, with what consequence, on what condition an action is performed (causality, association by cause/effect), etc.
2. **Thematic Roles** (declensions of the noun) show relationships between nouns and verbs/ other nouns: Genitive case, for example, may indicate possession or source of the action (association by contiguity in space), Dative – direction of the action towards the noun (contiguity in space), mixed up with purpose (causal association); Instrumental case shows by what means the action

was performed (a mix of resemblance, contiguity and causality); Locative case expresses contiguity in time/ space associations, etc.

3. **Verb Conjugations, Tense, Voice & Aspect:** a mix of resemblance and contiguity associations
4. **Modality:** resemblance associations, etc.

All of the above show relationships between word-meanings in the sentence mosaic, created by human minds attempting to reflect perceived relationships between things in the physical world.

To make a mosaic, we must not only put our tiles together into a meaningful pattern, we must also add enough detail (pixels) to make the image clearer. Similarly, to make a sentence, we must not only put words together into the basic nexus of the sentence, but, to make our meaning clearer, we must also describe the major sentence constituents. Synthesis and analysis of word-meanings produce thought/ speech; we spin our verbal ‘webs of significance’ by

1. Putting word-meanings together into the *nexus* of the proposition (**synthesis**) and
2. Describing *parts* of the nexus by associating them with other ideas, based on some Resemblance, Contiguity, or Cause/ Effect relationship (**analysis**).

Generalization, thus, forms the matrix of universal grammar of verbal thought which finds expression in countless forms and structures of the world’s languages, all shaped by it:

[Logic] shares something with grammar in that it provides rules for expressions, yet it differs in that grammar only provides rules specific to the expressions of a given community, whereas the science of logic provides common rules that are general for the expressions of every community (al Farabi: 1931; 17.5-7, 18.4-7).

We will now use the key of human logic to unlock the superficial complexities of syntax. Once we are able to see the logic that holds the word mosaics together, syntactic analysis becomes an enjoyable pastime.

THE ‘UNIVERSAL INVARIABLES’ OF LANGUAGE

Every thought tends to connect something with something else, to establish a relationship between things. Every thought moves, grows and develops, fulfills a function, solves a problem.

Lev Vygotsky: 1934

The sentences of all languages, irrespective of their morphological type or word order, always *connect* ‘what we speak about’ (the Subject) with ‘what we say about it’ (the Predicate), even if the subject is only implied, as in imperatives; for example: [You] “Come in, please” etc.

The ‘universal invariables’ of Synthesis (Nexus) and Analysis (Modification) govern all thought and speech:

1. **Synthesis (Nexus)**, or the Subject-Predicate connection, is what makes a sentence out of a string of word-meanings. Word order is irrelevant; it varies: i.e., SVO, SOV, VSO, VOS, or the more rare predominantly OVS /OSV patterns, which make up only 0.75% and 0.25% of the world’s languages, respectively (Christiansen & Chater: 2008)
and
2. **Analysis (Modification)** of the three basic constituents allows for *recursion*, or *embedding* of modifiers into any of the three slots of the basic sentence pattern. The connections between word-meanings /groups of word-meanings (whether based on Resemblance, Contiguity, Cause/Effect, or a combination of all three) are the result of our reasoning, a particular *generalization* that we make. For example, ‘*Cogito, ergo sum.*’

The *functions* of words in the sentence – whether they *name* the main sentence constituents or *modify* them – determine the relationships between them. These functions (Parts of Speech) are the same in all languages. Resultant word-meanings form progressively bigger chunks of meaning (phrases, clauses, whole sentences, utterances, discourse, etc.). The Noun, Adjective, and Adverb functions can be performed by the smallest *units* of language (word-meanings), *phrases* (groups of word-meanings that act together as a Noun, Adjective, or Adverb), or dependent *clauses* (Nouns, Adjectives, or Adverbs with an S/V/C structure). Determining how words, phrases, and clauses relate to each other within the sentence is the purpose of the so-called *generalizing* syntactic analysis – *G-nalysis*.

GENERALIZATION IN SYNTACTIC ANALYSIS (G-nalysis)

G-nalysis focuses on the *mechanism of meaning creation*, on how we connect, blend, and expand simple ideas into larger chunks of meaning, connecting word-meanings into *phrases* (groups of word-meanings that act as ‘team’ to serve one function – as an adjective, noun or adverb), and dependent *clauses* (groups of word-meanings that act together as an Adjective, Noun or Adverb, in the form of a nexal pattern S/V/C). This surprisingly simple and exquisitely elegant rational language mechanism uses, as we have seen, only two basic principles of connection, **Synthesis/Nexus** and **Analysis/Modification**:

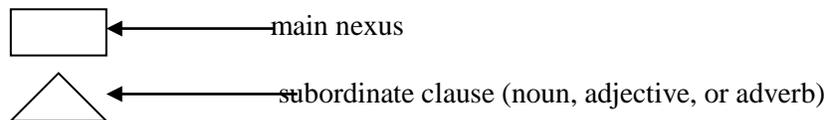
- (I) **Nexus** is the nucleus, the ‘bare bones’ of the sentence, the naming of *what* we speak about (Subject) and *what* we say *about* it (the Predicate, made up of the finite Verb and Compliment [S/V/C]; the order of these constituents is language-specific),² and
- (II) **Modification** implies *recursion*; the fact that any one or all of the major sentence pattern constituents (S/V/C) may be *described* or associated with other (simple or complex) ideas, based on Resemblance, Contiguity, and Cause/Effect, or all three types of association, as is the case in any generalization.

This open-ended mechanism allows for infinite expansion of the original sentence meaning through embedding modifiers into the main nexus slots.

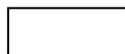
- (I) The first step in G-nalysis focuses on identifying all S/V/C patterns present in the sentence.
- (II) The second step, through asking relevant questions, aims to figure out the *logical relationships* between the main nexal pattern and the embedded ones:

G-NALYSIS

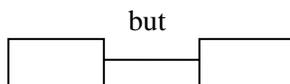
Key Symbols:



(1) //All great truths / begin as blasphemies/ /.
 S V C_{zero}



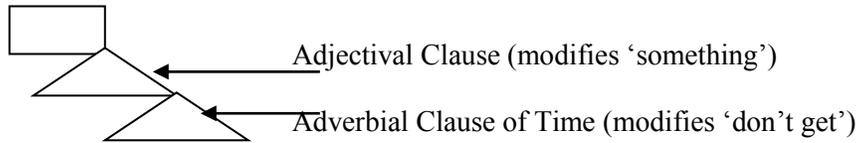
(2) //You / can twist / perceptions//, but // reality / won't budge//.
 S₁ V₁ C₁(DO) S₂ V₂ C_{zero}



² The Object slot of the traditional sentence pattern is designated **C** for *Compliment*; this is because, apart from Direct/Indirect Objects (DO/IO), there are three other ways of filling it: it may have **Zero Compliment**, as in *I am*, or have a Predicate Noun (PN): *Peter is a doctor*, or have a Predicate Adjective (PA), i.e., *She is clever*, to fill it.

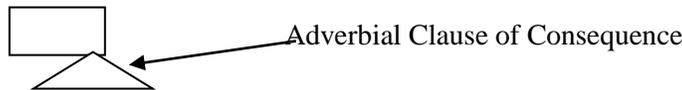
(3) //Experience / is / something // you / don't get / until just after /you / need / it//.

S_1 V_1 $C_1(PN)$ *Which something?* S_2 V_2 *Until when?* C_2 zero S_3 V_3 $C_3(DO)$



With what consequence?

(4) //I / think //, //therefore / I / am// ~ *Descartes*



(5) //Drawing on my fine command of language, / I / said / nothing//.*

S V $C_{(DO)}$

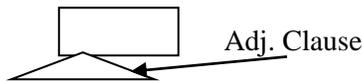


* The adverb of manner (or reason) phrase precedes the Subject.

Which everything?

(6) //Everything // you / can imagine // is / real. // ~ *Picasso*

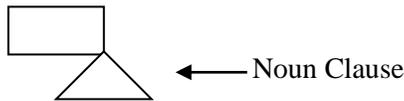
S_1 S_2 V_2 V_1 $C_1(PA)$



What?

(7) //True knowledge / exists in knowing / that /you / know / nothing.// ~ *Socrates*

S_1 V_1 $C_1(IO)$ S_2 V_2 $C_2(DO)$



Which tracks?

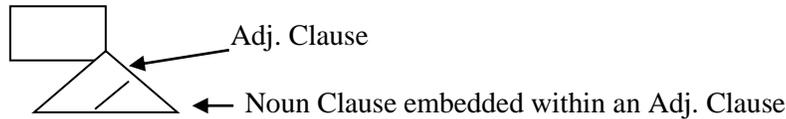
(8) // Knowledge and belief / are / two separate tracks // that / run parallel to each other and never meet, except in the child.// ~ *Godfried Bomans: Buitelingen II*

$S_{1.1}$ $S_{1.2}$ V_1 $C_1(PN)$ S_2 $V_{2.1}$ $V_{2.2}$



(9) //Brain / is / an apparatus // with which /we / think / we / think.// ~ Ambrose Bierce

Which apparatus? What?



G-nalysis is flexible: it allows for ambiguity, so inherent in language. The functions of words and groups of words (phrases and clauses) may be analyzed differently, depending on one's perception / the kind of generalization one makes. In example (7), for example, the phrase *in knowing* can be analyzed as

- (a) **Indirect Object** (IO) in the compliment slot, if the question '(exists) *In what?*' is asked, or as
- (b) An **adverb of place phrase**, if the question '*Where?*' is asked instead; in this case, the complement would be analyzed as zero.

This flexibility of G-nalysis reflects the fluid nature of 'live' meanings we create and perceive, as we 'play our language games'; it accounts for the indeterminacy of meaning (meaning as use) that Ludwig Wittgenstein and Bachtin wrote about.

G-nalysis reflects the way we think / reason, which is why it is both enjoyable and easy to make sense of. There is every reason to believe that this is why it is so popular among the University of Papua New Guinea students.

CONCLUSION

In summary, I have argued that:

1. Language *Is* Verbal Thought: every word, every sentence is a generalization (an act of thought);
2. Universal principles of human understanding govern all human thought: we associate ideas by Resemblance, Contiguity in Time/Space, and Cause/Effect; all three types of association the 'sinews' of generalization;
3. Word-meanings are the smallest units of language; we create progressively larger chunks of meaning by combining word-meanings and groups of word-meanings together;
4. Synthesis and Analysis are the two universal principles of both thought and speech (sentence structure): **Nexus** (the language-specific Subject-Predicate patterns) and **Modification** (associations based on Resemblance, Contiguity, and Cause/Effect);

5. Word-meanings *develop* (in the collective mind, as well as in our individual minds);
6. Word-meanings also vary, depending on context of use and individual perceptions of speakers;
7. *Generalization* is the *Rational Mechanism of Language* / Verbal Thought;
8. Grammaticalization is driven by the generalizing associations between ideas (based on Resemblance, Contiguity, and Cause/Effect) in the collective mind of the speech community;
9. Generalizing attitude in syntactic analysis (G-nalysis) follows the natural logic of the human mind and captures the fluid nature of the meanings we create.

A synthesis of Vygotsky's and David Hume's ideas has provided us with the wide-angle lens of dialectics that alone can capture Language 'live' – in its interconnectedness, movement, change and evolution.

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