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## Triad. Method for studying the core of the semiotic parity of language and art <sup>1</sup>

### Abstract

The purpose of this paper is to present and describe a new method for studying pre-speech language. The suggested approach allows correlate epistemology of linguistics to the ideological tradition of other scientific disciplines. Method is based on three linguistic categories – nouns, verbs, and interjections in their motor and expressive qualities – and their relation to the three basic forms of art – graphics (visual art), movement (dance), and sound (music). The study considers this correlation as caused by the nature of the human receptor system. This method explains the nature of art and the phenomenon of aesthetics and allows for the chronological arrangement of important cultural processes; it identifies the fundamental unanimity of the semiotic nature of language and art.

**Keywords:** Glottogenesis, language, cognition, mind, culture, language evolution, nonverbal communication, pre-speech language, origin of art, origin of aesthetics, oral folklore, universal syntax, language universals.

### Introduction

The period of the existence of oral folklore as an active cultural process is relatively limited by the time of its disappearance, i.e., the period when writing skills became popular. From the perspective of the evolution of humankind, this period is extremely short. All published findings of oral popular art were collected within that short period, and one can judge the ancient roots or the origin of various texts or genres only through scientific analysis. This also refers to folklore as a whole.

That period when all kinds of information (historical, cultural, social, etc.) were passed orally from generation to generation is far behind us. The information passed orally endured changes and modifications through loss of previous gradations and the acquisition of new ones. Thus, optimal forms were developed for successful comprehension, transfer, and preservation in memory, sometimes at the expense or with the aid of other folklore forms. The invention of

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writing and the popularisation of its skills (fixating of the oral texts) dramatically changed human life. Oral popular art with all its naïve archaism and authorial anonymity (in the modern sense) was now relegated to the pre-writing literary period, and, later, as an alternative to the written-literary form of art.

This research introduces a new method that can be considered as a contribution to a more thorough study of cultural processes, their principles, and sources. The purpose of this method is to arrange these processes chronologically based on synchronising the development of language as a semiotic system with the important stages of the human physical evolution. The traditional approach in studying history and the nature of oral creativity (folklore) is based on the analysis of text transformations. Unlike this approach, the new method views oral popular art as a part of folklore, and folklore itself as a component of the historic period of human cultural activity.

### **Background research review**

Numerous attempts have been made at a functional interpretation of folklore, art, and their interrelation with language throughout the centuries. Various investigations were dedicated to the importance of basic components of the language communication – graphic (pictorial), audio (musical) and kinetic (gestural) presentations. The role of each of those components and their supremacy in theories of glottogenesis has been explored.

In pictorial semiotics, a drawing (or an image) is considered as a sign, which transfers information directly to the visual perception of the recipient. In other words, drawing creates an illusion of commonality between two communicating parties. Gibson asserts that drawing, in its habitual sense, is based on sensor and logic analogy (Gibson, 1982) or, to follow M. Hassler's definition, on "pictorial consciousness" (Hassler 1991). According to Y. Sher, the essential need for graphic expression appeared instantly whenever a definitive cultural structure experienced difficulties in adapting to the environment in the absence of preservation and active use of vital information (Sher 1990). This need is linked to the increasingly complicated environmental conditions depending on the

character of adaptation, the type of life sustainability, interpersonal relationships, etc. (Pfeiffer 1982).

The definition of speech as a combination of the symbolic sounds, grammatically connected with each other, was given in 1998 in the musical theory of language origin (Vanechoutte & Skoyles 1998). According to the authors of the theory, reproduction of speech structures is possible only in the presence of a music acquisition device (MAD), a special mechanism from which the new mechanism – language acquisition device (LAD) – was formed in the process of memetic evolution. Authors accept speech as an early cultural phenomenon, and the ancient ability to sing as based on a physical structure and neurology of the breath control – the necessary elements for modern speech reproduction. Authors of “the musical theory” reduced the problem of language origin to the origin of the ability to sing among humans. As a counterargument to the “musical theory,” research results of comparative psychologist R. Chauvin show that some features of a bird’s singing are not reproduced instinctively, but are acquired during the bird’s life cycle. However, there is no precondition in a bird’s singing to possible speech development (Chauvin 1977).

The musical appearance of the transferred information helps to define subjects by tone, pitch and timbre of a sound and other characteristics. Starting with the first day after birth, the newborn synchronises his movements with the sounds of adult speech, and his ability to acquire a phonetic background of any language is preserved until the ninth month of life, before development of the conscious perception of the native language (Eimas, Miller & Jusczyk 1987). At the same time, noise is not associated with the sounds of regular speech, in a prevalent number of cases, has a low communicative index.

In 1977, the ethnolinguist Roy Ellen presented the new term “semiotics of the body” in his investigation of various forms of body language segmentation in different languages (Ellen 1977). The cultures using language that do not include verbal distinctions, for example, between a wrist and an arm, construct certain informational models based on the description of a certain movement. The structure of visual gestures with their kinetic and visual performance is indiscernible from the elements of sign language, which differs radically from the

structure of verbal language. In the first case, the word has a structure of a mini sentence as it contains two components: an active part of a body and an action, which it carries out (Armstrong, Stokoe & Wilcox 1994). “The theory of gestures”, which claims that body language is the first language of ancient man, and not the sound designations as it once was considered, is the popular position among the many of glottogenetic hypotheses. Tests on primates in the 1970s have strengthened validity of such position (Gardner & Gardner 1971; Premack 1971). The language of gestures, or signs, is considered the primary tool of communication, whereas speech is defined as merely secondary, and although all sign languages are onomatopoetic, signs represent completed features of the transferred information (McBride 1973).

Voice intonations during speech, gestures, and body language (nonverbal semiotics) are commonly used in everyday life. Nonverbal communication is popular, for example, in scenarios such as dialogue between mothers and their newborn babies, in the initial attempts to communicate with people suffering from hearing and speech disorders, in communication with animals, in unfamiliar language environment or for strengthening persuasiveness of expressions etc.: when speech communication is absurd or does not work as a solo communicative tool.

The concept of folklore as a combination of all three media involved in one form of cultural activity, was defined in the middle of the nineteenth century as “popular olden time” and this included: ancient customs, festivals, myths, legends, fairy tales, and sayings. Dan Ben-Amos defined folklore as all verbal and nonverbal forms of human creativity and the combinations thereof. Accordingly, all artistic forms of folklore are developed from primitive forms of self-expression and gradually created the foundation for the literary, graphic, and musical heritage of our culture. Folklore is a unique communication medium on all three levels – formal, thematic and performing – never used by folklore performers in other accepted forms of communication. There is a strong correlation between these three levels. As for the two permanent attributes of folklore, i.e., universality and communality, they combine the general and the particular in one conceptual base. The attribute of universality is seen in the

unexplainable similarity of metaphors, plots of stories, and aphorisms common to various language groups. The attribute of communality supports all kinds of folkloric creativity that is obviously a kind of a human group activity (Ben-Amos 1983).

Many linguistic schools searched the roots of universality in the cases of coincident names, motives and mythologies, and social and poetic traditions in culturally and historically disparate literatures. V. Zhirmunsky established accurate methodological forms in a comparative study of literatures (Zhirmunsky 1979). This approach is based on distinctions between genetic and typological similarities either in texts or as separate elements. Zhirmunsky's investigations were derived from E. Taylor's thesis of "stage development of the world literature," which he considered as the main condition of historical and cultural "influence" and "adoption" (Taylor 1920). However, Y. Lotman, recognising the value of Zhirmunsky's conclusions, noticed that all attempts to construct not only stage-parallel but also immanently independent histories of separate cultures ignored the fact that the impulse for interaction depends not on similarity but on differences between cultures. According to Lotman, in the process of text adoption, a crucial role is played by analogue mechanisms of creative thinking. He assumed creative consciousness is a kind of intellectual device for delivering new messages that cannot be unequivocally deduced from another message by means of any algorithm. The purpose of each communicative action is in transferring identical messages and creating a common language for all members in order to reach the univocacy of mutual understanding. At the same time, the cultural mechanism is influenced by the opposite tendencies caused by increasing complexities both in the sociocultural aspects as a whole and on the individual personality level in particular. As a result of these complications, culture acquires the status of totality not only in semiotic systems (languages) but also in all messages in these languages (texts) as well (Lotman 1990).

Man is involved in two processes in his life struggle – the process of consumption of material assets and the process of accumulation of extra-genetic information. These processes are amongst the basic conditions of human existence. The process of accumulation of extra-genetic information depends on

a complex mechanism of not only storing information but also in generating new ways of information transfer, which allows us to define this mechanism as an integral part of the well-organised system of cognition. Y. Lotman believed that human culture began from the emergence of signs and sign systems – language. He referred to language as form of information accumulation exclusively, peculiar to human society. Thus, human culture was accepted as a secondary system (the primary system is the accepted natural language) and developed with a combination of both sign and language (Lotman 1990). Here talking about “emergence” of signs and sign systems, he obviously emphasised the fact of development of the biological ability of humans to identify signs and systematise them linguistically.

The origin of parts of speech is one of the most important questions in linguistics and has more than a two-thousand-year history. The history of the problem includes the irregular process of occurrence and negation of various ideas, differing by character and context and reflecting philosophical views of a given time. The theory of parts of speech first was substantiated in ancient Greek philosophy by Plato and Aristotle, and since those ancient times, the analysis of speech context was traditionally held from gnoseological positions. The gnoseological analysis has led to the opposition of the two main parts of speech, i.e., a noun and a verb, and to the allocation and description of other parts as derivative or secondary (Erickson 1974).

### **Discussion on the definition of language**

The definition of language is traditionally equated with speech by many authors, even in very recent publications. A number of misconceptions are based on the acceptance of the fundamental paradigm of language as a concept without a specific contextual definition. It often leads to a mix of following concepts of Language as a:

a) *Semiotic phenomenon (la langage)*, the general system of nonverbal and verbal signs;

b) *Physiological (biological) phenomenon*, as a natural human ability to perceive the world in the form of a sign system (semiotically) and to express

oneself in accordance with the rules of this system, by any physically possible means;

c) *Speech as a medium*, a derivative of the unique human speech apparatus – one of the physical abilities of communicative expression;

d) *Spoken language as a specifically organised grammatical form (la parole)* of the general sign system.

Assigning to Language specific properties or grammatical rules of any spoken languages limits productivity of the research on the evolution of language. The mentioned approaches can help to clarify some cultural, habitual particularities and techniques of the pre-speech language vocalisations, but they leave aside the main study of language evolution (as a physiological phenomenon).

N. Chomsky urges that language should be studied as any other anatomic and physiological structure of the human body, as the human brain or “mental organ” contains a limited set of rules for organizing language (Chomsky 1965). The idea of the biological ability of humans to learn languages was developed (Anderson & Lightfoot 2002). S. Pinker declared that the natural selection was an impetus for development of language (Pinker 1994) and T. Deacon stated his views in hypothesis of the parallel development of a human brain and the ability to master speech (Deacon 1997). Aforementioned hypotheses are unified by their adherence to the explanation of the genetically adaptable or assimilative nature of the origin of language and by, de facto, identifying language as speech by omitting the fact of the existence of any sustained, well-organized functional language structure apart from the related to speech mastering grammatical tendencies. The same applied to critics of these hypotheses, even most scrupulous or resent (Evans & Levinson 2009), which are, no wonder, cannot lead to or project hypotheses on their own. A weak gnoseological position of some scientific works, subsequent hypotheses and opposed opinions revealed by the naïve attempts to validate key assumptions in Language evolution (as the physiological ability) research by illustrations from grammatical constructions of the spoken language.

Premature hope was expressed by some authors to the fact of discovery of FOXP2 gene. Initial research of the gene did not produce proof of its coding for speech facility specifically. Discovery of the same gene in Neanderthal's DNA leads to suggest the relation of FOXP2 gene to a more complex mechanism than speech. Such mechanism, quite possibly, could be Language, already defined above, as a natural ability to perceive the world in the form of a sign system (semiotically) and to express oneself in accordance with the rules of this system by any physically possible means. The lack of a defined and differential approach to the core of Language and the core of Speech can potentially lead to mistakes in explanations of neurological processes related to language acts due to the interchanging of language with speech acts, or analysing them as one, as the hybrid of both. Clarification of this issue could stop us from jumping to risky conclusions of the Neanderthals speech abilities without depriving them from another functional form of language.

The linguistic literature considers various aspects and methods of studying pre-speech language and explains the linguistic nature of graphical presentation, motion and sound mostly from the point of their physical qualities. No evidence of an explanation of these categories from the standpoint of linguistics was found. It is a similar situation with the definition of the essence of Language, which is often misrepresented by the essence of its vocal instrumentalisation only. It seems like vast part of linguistic study and cross-disciplinary research on language evolution and language universals deals with some placebo, but not with the real subject of study.

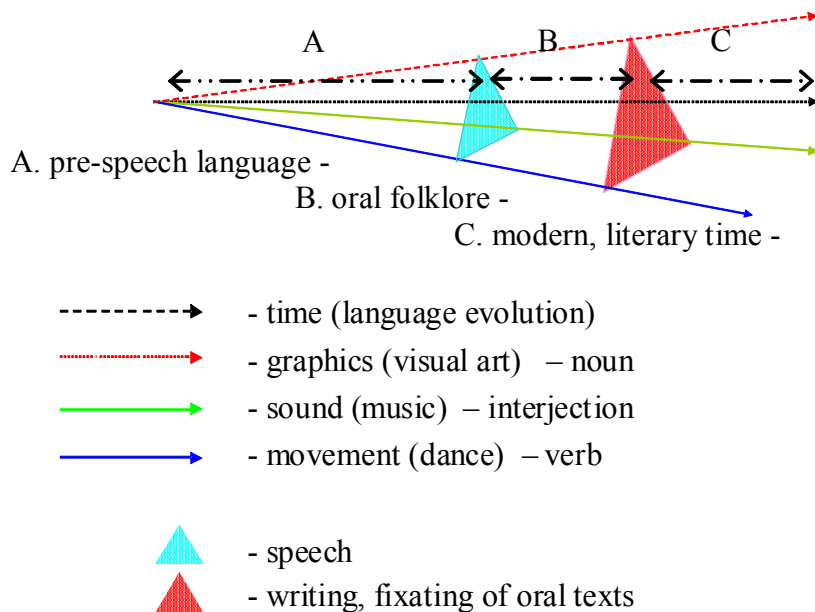
### **The method and approach**

Epistemology of scientific disciplines such as physics, mathematics, chemistry, etc. allows the use of their own scientific criteria and terms in relation to the description of reality. Ideological approach from the position of a discipline is a valuable technique of formulating and solving important scientific tasks. Turning to their experience and using the same epistemological engine, it seems correct and necessary to view the science of linguistics from the standpoint of the main



subject of the study, i.e. language and to describe the world around us in linguistic categories. The new triad method is based on an initial understanding of language and sign identity as the essence of culture. Method considers each cultural sign as a sign of language, which could be expressed (transferred) by use of any possible instruments of pre-speech language or can be expressed vocally. As a background to this method, oral popular art and folklore have been chosen and viewed with an emphasis on their communicative function and determined as a cultural implement for passing thematically connected information from generation to generation. Principles and skills of primitive (pre-speech) language activities stand at the basis of all types (visual folk art, dance, music, oral folk forms) and genres of folklore. Thus, relying on their use in folklore forms, we can study the mechanisms of the development of the modern cultural processes as well. The roots of oral popular art are traced back to times, when oral forms of information transfer started to stem from archaic forms of ritual pre-speech presentations, when all type of presentation actions had a communicative function of a language, were timely informative and practical. In other words, the roots of folklore lay in the pre-speech period of the language activity of humans.

Oral popular art in its primitive forms begins with the period when men embraced speech. The end of this historical-evolutionary phase of information transfer occurred at around the time of the emergence and wide acceptance of writing skills, when developed skills and techniques of oral folklore texts fixation became one of the communicative norms. Preverbal motor abilities of communicative interactions, the basis of folklore, have accompanied all stages of vocalisation of preverbal language as auxiliary means and were the most convenient way of transferring and preserving information up to the time when skills and techniques of writing were developed (*Figure 1*).



**Figure 1.** Language evolution

The first section of the pyramid in *Figure 1* is the pre-speech language period; the second section, the period of the active role of oral folklore as a tool of information storing and transfer; and the third section, the period of writing as a means of communication, information transfer and storing in memory.

During the process of popularisation of writing and ongoing regulation of its norms and rules, the difference between words in their relation to designated objects, actions, and characteristics has been noticed. This difference was admitted as ‘lexical-grammatical’, and the classification of a lexicon itself was an attempt at ordering words in accordance with their pre-speech origins (i.e. in accordance with perceptual physical identity of objects and events represented by those words) and then, by indications of belonging to various lexical-grammatical classes (parts of speech).

The method is based on acceptance of three basic linguistic categories, i.e., nouns, verbs, and interjections in their connection to three fundamental art structures: graphics (visual art), movement (dance) and sound (music), due to their motor and expressive qualities. Thus, while acquiring the basics of language, ancient man transferred information to his tribesmen mainly by

depicting real objects (graphics) or by referring to them through imitative motion (dance), or by emotional sound description (music), and did not use his articulation organs. The conclusion is that etymologically, such types of folklore as visual art, music, and dance ascend, accordingly, to the objects and scenes seen by early man, to the sounds heard around and experienced by him, or to simply visible movements of objects. These means of transferred information could be defined and differentiated according to their linguistic essence into one of three classes – nouns, verbs, or interjections (categories of state) – and by applying the ‘mechanics’ of “symbol formation” and “lapse of meaning”, in Heinz Werner terms, to multimedia, e.g., triad word-formation, Werner’s symbol formation theory (Werner 1984) reaches its final logical completion. First, a description of an object by means of movements, imitative gesticulations, and use of graphic presentation, drawing and vocal expression creates the complex multimedia sign (symbol<sup>2</sup>). Then this complex sign (concept or symbol) is exposed to the process of homogenisation (or levelling), typical for the practical circulation of folklore tradition, loses excessive media elements (“lapse of meaning”) and turns gradually into a vocal sign with further integration to speech language as a word.

Objects, movement, sounds are solo phenomena, which surround humans in the real world. Three classes of signs we are able to perceive, refer to three classes of words by which we are able to express ourselves. It is known that human beings perceive the physical world surrounding them, all objects, sounds and events, physiologically, by means of receptors only. Following this assumption, this general methodological approach refers to the three linguistic categories – nouns, verbs, and interjections – in their etymological equivalence to graphics, movement and sound, and considers this parity as caused by nature of human perceptive system and possible physiologically only. This approach

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<sup>2</sup> Adhere to triadic (visual-audial-kinetic) classification of signs, we are able to define term *symbol* as a concept in its transition to be a sign, to be a singular unit of one of the three mentioned categories with their direct appeal to sensory system of human. This kind of aspiration of concept or text to acquire (on the merit of its critical natural or cultural significance) status of sign highlights biologically encoded tendency and points at some of mind operations, which are unintentionally or intentionally engaged in initiations of alphabets, numbers, totems, emblems, icons, logos, etc. and were instrumental for pre-speech words formation and for their transformation to single vocal sign (see p.21).

reveals the important linguistic property of human physiology. In such a system, graphics representation is the language function of a noun; dance – the function of a verb; and music – the function of an interjection or category of state. Furthermore, from the perspective of linguistic science, one can conclude that the whole world surrounding us, all the certain objects or the events, even those *not named by a word*<sup>3</sup> – are nouns, verbs, and interjections. In fact, we are able to determine here, with the help of the basic (intuitive) semantic, properties of the three universal types of semiotic signs our mind operates by, when perceiving or expressing (not only through speech) information, and these are the research subject of linguistics. In other words, human perception is able to determine three linguistic ‘equivalents’ of what we refer to in classical physics as three states of matter<sup>4</sup>. As for qualitative assessments, they occur at the following junctures: image (graphics) and sound (graphical art and music) to adjectives; image (graphics) and motion (graphical art and dance) to pronouns; and motion or gesture and sound (dance and music) to adverbs. This structure assumes that the leading role of interjections in pre-speech language gradually relegated graphic and motor elements to secondary roles and stimulated the wide usage of vocal components in language itself. Such a process has the features of word formation. The ‘invasion’ of interjections brought some ‘sound tint’ to communicative elements, providing the interjections with the function of nouns and verbs.

Transition to speech was a long and complicated psycholinguistic process of abstraction of ‘pictorial consciousness’ and ‘body semiotics’ into phonetic signs on the bases of available sound designations, which, in turn, began to play an active word-formational and morphological role. The process of vocalisation, which has defined sound as a basic tool of communication, had further major influence on human physiology. The development of the organs of articulation can serve as an example. In other words, vocalisation significantly

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<sup>3</sup> Could be exiting and challenging to authenticate this entity within or next to the Peircean categorisation of “modes of being”.

<sup>4</sup> Today physics postulates other aggregate states of matter and modern linguistics accepted beyond the three abovementioned categories. Nevertheless, classical (epistemologically initial) definition remains the basic phenomenological constant from which scientific knowledge is progressing onward.

influenced the process of evaluation of the world in a whole and of interpersonal relationships in particular (e.g. forms of socialisation). From this stage on, oral creativity (folklore) gains its true and full sense. The qualitative improvement in the instruments and technics of the information storage and exchange can be seen as determined by gradual increase in the total quantity of cognised objects and events (signs) and the subsequent need in advanced exchange. Today we are using widely non-biological, mediate methods of the information storage, including writing, typography, mechanical or electronic devices, etc. and further improving communication.

The triad of graphics, movement and sound is the first natural language based on two distinct fundamental sequences. The first is the sequential identity of the visual, kinetic and audio systems of perception to three media of expression - graphics, motion and sound. The second is the sequential correspondence of very systems of perception and media of expression to three basic grammatical categories - noun, verbs and interjections. The triad method defines a theoretical approach to interpret the evolution of significant cultural processes from the point of the above-stated sequences.

The formulated position on the three media of pre-speech language allows us to present the possible 'grammatical' codes of information transferred by 'triad' language graphically. Let us imagine that we have a communication system in which the graphical presentation is designated as  $\square$ , movement  $\circ$ , and sound  $\triangle$ . Information transfer in pre-speech language is characterised by the consecutive involvement of these three media or their arrangements, which can be expressed by the following combinations (*Figure 2*):



**Figure 2.** *Some examples of using triad media and their combinations in pre-speech expressions.*

According to the word-formation function, each graphic example presented in *Figure 2* has a certain syntactic charge and at the same time is a grammeme.

Hence, one more significant role of the triad should be highlighted: the grammatical code of pre-speech language cannot be described and analysed merely from the positions of speech and written languages, although it operates with three fundamental parts of speech (nouns, verbs, interjections). Thus, in the language evolution research we must distinguish and define pre-speech and speech grammatical rules and tendencies. In the presented scheme, a consequence and compositions of media is typical not only for media' syntactic order, but can be characterised as morphological too. From this follows a noticeable unanimity of syntactic regularities in pre-speech language sentences and word formation. It is tempting to presume activity of the same syntactic tendencies on the level of spoken language. They probably govern on all levels of informational constructs: not only in word or sentence formation, but also on the level of more complex oral, written literally and even non-literally texts as well. Beside, certain results could be achievable by the psycholinguistic comparative study of empirical identity in the semantics of pre-speech and speech language units.

As motor actions arise from undifferentiated level (Werner 1957), which were defined by D. Bickerton as "a free-for-all, catch-as-catch-can mode" (Bickerton 2007: 512), formation of triadic syntax begins on a level of a natural reaction by whole organism and then gradually finds more steady forms for expression, reception and storing in memory. Main unanswered question is why and how were triggered and developed the conditions for such organismic actions.

In the period when speech was involved in more and more functions of information exchange, ancient man achieved a new aesthetic experience (music, dance, and graphical art) by habitual use of the expressive essentials of the pre-speech language. With the aid of these new experiences, the forms of transfer, perception, and storage of information in memory have been optimised and improved. Conceptualisation of the language components as ritual symbols of meanings, forms and methods of information transfer into the abstract psychological categories occurs. In these new categories, graphics (painting), dance, and music acquire a place in the arts. Lotman considered language to be

the main modelling system of cognition and comprehension, and art was considered among the secondary systems. In other words, art was considered as an analogue of reality, translated into the language of the main system by aid of iconic signs and as a realisation of the information model. The Triad method enables the identification of the equality of the main elements of what today we refer to as Art with expressive forms of pre-speech communicative acts. Thus, mentioned elements (visual, audio, kinetic or graphical presentation, sound, movement) remained in a status of “primary reality” until they are no longer utilised by language act due to a full development and distribution of a vocal, speech language. Despite a certain need for natural creativity of expressive act of pre-speech language, the quality of informational presentation did not have aesthetic value but had a vital value. Hence, to transfer information by triad language, certain skills and the talent of the language performer were required. This can be observed in the examples of rituals in current primitive cultures. Accordingly, the development of such skills was dictated by the survival instinct and had a definite value in the process of natural selection. A permanent search of the most effective, expressive, and accessible way of pre-speech information transfer was dependent on continual perfection of skills in transfer and expression. They were extremely important in pre-speech times for a performance of a language act. Aside from that, successful functioning of pre-speech language was one of the important factors in human struggle for life. Linguistic creativity was the key to survival.

During the stage of speech development and emergence of art, natural necessity for skills in information exchange transformed to become fundamental for, what we call now, aesthetic requirements and aesthetic perception. Skills quality has been gradually transformed into aesthetic qualities, and accordingly, art elements of triad (pre-speech) language have been transformed and developed into forms of art, no longer dedicated to their historical linguistic functions.

Graphics, music, dance and any combinations thereof were developing into the new aesthetic quality channel, becoming basic ‘laboratories’ for new abstract concepts and accordingly, for testing and perfecting the properties and

qualities of these concepts. Art as a form of human cultural activity originated following pre-speech language period and has lost its purely linguistic functions, turning into an independent cultural-aesthetic process. Remember the vital role of the communicative act's semantic conformity with reality, attention should be focused on the three inner act processes<sup>5</sup>. The first is characterised by aspiration for accuracy of a word (its actual meaning) in relation to its position in a sentence (semantics as is). The second is – accuracy, integrity of a sentence in its position within a broader text (logic and aesthetic of text). The third is – position of text, its relevance to the cultural perception of reality (ethics). The relative character of cognition is the reason for unique individual approach to any kind of creative act of self-expression. Depending on individual's creativity, the same object, the same phenomena or process can be described with different degrees of reliability and completeness and can be expressed in different ways, supplementing each other. Moreover, if we have to consider the thesis about the importance of preserving and transferring information by humans as the means of their biological and social survival and the thesis about the variety of forms of triad language expressiveness, an aspiration by each group of language act performers to use their own combinations of media can be characterised as predestined by specific living conditions and adaptation. The environmentally and culturally predetermined originality of pre-speech forms and expression methods and, subsequently, of folklore and art as a whole raised doubts about the occurrence and existence of the so-called 'universal' language, even at the very beginning of speech activity.

We can state the main idea of art as a mastery of transferring certain information to the viewer or listener using only one of the three media (graphics, music, or dance) or their combinations (multimedia) – theatre, ballet, opera, and cinema. Literature, as the art of transferring information through writing, starts from the time when writing was 'invented' (petrography or other signs scripting were systematised) and widely introduced. In linguistic terms: visual art (including architecture, landscaping, fashion and other graphical genres and elements of graphical presentation in mixed media) – represents an attempt of expression by

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<sup>5</sup> They are often generalised and defined as mimesis.



means of nouns; performing art, dance, pantomime (including elements of movement determined by a technique of a given genre, mixed genres and media) – an attempt of expression by means of verbs; musical art in its diversity – by means of interjections. It is noteworthy that the original multimediality and language interactivity in the pre-speech period allows us to seek parallels with aspirations of the modern mass media and modern educational techniques to achieve the effect of multimediality and interactivity on the basis of the same triad components – graphics, movement, and sound – but expressed on a higher technological level.

By implication, it confirmed by semiotic study of the ‘readability’ of cultural signs of cinema (Lotman 1976) and circus (Bouissac 1985), as well as paleontology (Bouissac 2006) and mathematics (Rotman 2006), etc. Semiotics treats reality as text and read it as a book, relates meaning to signs. This ‘book of reality’, in fact, ‘written’, physically represented, only by three classes of linguistic signs: nouns, verbs, and interjections.

Thus, methodically, it is possible to assert, that language evolution as a primary element of consciousness, at some quantitative stage, triggered qualitative changes: the vocal apparatus development and simultaneous redevelopment of early types of psychological models of reality perception and ways of expression of the relation to that reality (artistic-aesthetical approach, sophistication in exploring of categories of time, distance and etc.). However, it would be premature to assert that the physical skills of graphic and motor triad elements merged with the development of speech and written forms of language completely. Examples of integration of drawing into hieroglyphs and movement into gestural artificial (kinaesthetic) languages show that the main elements of pre-speech language did not assimilate. Moreover, they can be defined as evolutionary modified parts of more progressive linguistic structures. The development of new forms of expression by means of a language occurred by building on triad forms, and not by their full replacement. Even today, correct semantic definition of speech constructions relies upon vital ‘environmental context’ or pre-speech language attributes and skills such as – body language,

voice modulations and tone, as well as graphical presentation – for the purposes of both the expression and the perception of information.

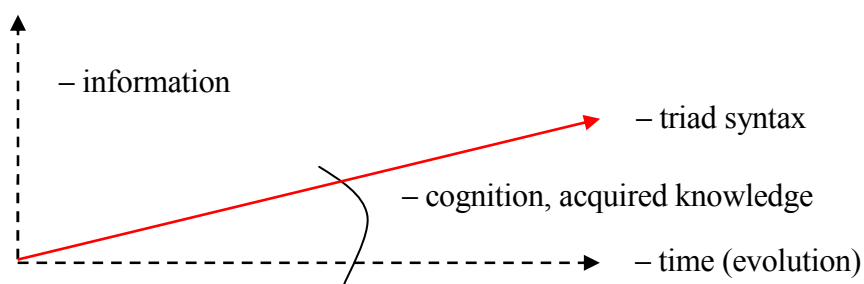
Sensorial, nonverbal, perception of environment by means of triadic syntax is still typical for the modern human and forms the precondition for conscious perception of reality. Continuous perception of information, analysis and the following responsive actions are occurring in non-speech situational context, as well as during of verbal communication. This permanent condition of human physiology is staying active at the time of verbal communication, significantly increasing informational value of the speech act. In addition, if the language of a speech act belongs to the one from a number of grammatically governed existing languages, the non-speech contextual perception is universal and a following response reaction is adequate to the behavioural and cultural character of the individual. Quite often, a verbal communication act serves only as an addition to information perceived by triadic system of a semiotic signs or as a useful addition to triadic expression. Even in cases of quantitative domination of verbal information, the need for verification of completeness or other qualities by triadic means (the need to see, feel it, do or hear) emerges. In both cases, such need is dictated by a strong tendency to obtain maximum adequacy of information (in acts of perception and expression). Thus, a modern act of language communication cannot always be effectively informative without the use of speech, or without the use of triadic communication component. Such an act will always intend to achieve the right balance of both elements. Modern language act consists of two active components – speech language and triadic language.

In spite of the universality of world perception by the triadic signs system, methods and forms of expression have always been different. Although they have been subject to the same rules of the same system, acts of expression are dependent on different objective and subjective factors, mostly environmental and could not be identical for all groups. This assumption should serve as a support to the Linguistic Relativity hypothesis and, at the same time, makes clear, that the possession of the ability to act linguistically (general biological factor) cannot be examined by analysing only the diversity of linguistic acts

(environmentally and culturally driven narrow behavioural manifestations of such ability).

### **Cognition as the factor of word formation**

It seems possible to assume that in the pre-speech period, the triad was a unique tool of cognition whose criteria were the elementary categories of language – nouns, verbs, and interjections – able to describe nature’s basic physical qualities, such as items and live objects, events and sounds. When the period of the development of speech language began, a number of cognition criteria extended simultaneously including the categories of quality, time, distance, etc.



**Figure 3.** *Correlation between information, language evolution and the process of cognition.*

The zero point in *Figure 3* corresponds to the total data of the anthropological characteristics of evolution, culture occurrence and pre-speech language system formation. The sector of cognition (in linguistic term, word-formation) is presented between the vectors of information and evolution. Words represent names of the cognised objects, connections, and the relations between them. ‘Lexicon expansion’ occurred regardless of how words were expressed or perceived. This relation was confirmed by C. Popper, who correlated human abilities to learn and produce scientific knowledge, with the results of natural selection and with the evolution of human language (Popper 1984).

At the same time, it was emphasised, that the evolution of speech facilities must be studied independently of language evolution (Fitch 2000).

These two different processes are initiated by the non-dependant biological triggers and are separated by a considerable time distance. Language evolution is fundamentally related to consciousness and cognition. Speech evolution is the physiological development triggered by systematic use of vocal elements of language's expressive act. Following from this conclusion and accepting the triad (the language) connection to cognition as caused by evolution itself, we can also accept the interdependence of the whole cognition process and the quantity and quality of the acquired information.

The study of language evolution cannot be sufficient and productive if based on the foundation of grammatical rule utility, derived from vocal apparatus function and speech only. Language evolution as a biological phenomenon has strong connection to consciousness and to cognition process while evolution of speech is a process of physiological improvement of instrumental property of expressive act derived from use and improvement of vocalisations routinely and as a result leading to the development of specific (pre-conditioned by facilities of the medium) sign system, distinctive for verbal expression and perception.

Experiments with animals pointed out the fact, that animals with successfully trained *skills* to communicate by means of semiotic and syntactic rules *mastered* by ethologists, did not produce the effect even remotely matching the effect of developmental acquisition of the spoken language ability by children. As stated above, man perceives the world by pre-conditional means of receptive system's visual-audio-kinetic syntax in its singularity. Absence of such a pre-condition in animal receptive system is additional proof of the lack of the language evolution stage in their biological development. (This fact could possibly explain the functional difference between human FOXP2 gene and a chimpanzee's). At the same time, those experiments are producing the solid proof and making obvious the fact that language evolution hypotheses developed on a basis of speech mastering ability are ungrounded: experimental methods have shown that the role speech plays (monkey cannot say a word!) is not cardinal to the successful act of communication. Speech as one of the instruments of information exchange was not chosen for experiments and instead

triadic language was used for communication reflexively. This can be observed as a documented fact of the scientist's behavioral pattern: they had no choice. Even the most sophisticated tests with primates did not show evidence of any systematic, 'world comprehending', heuristic (as structured, i.e. syntactically organised, semantics) behavioral changes. Only a few techniques, directly stimulated by scientist, found their habitual usage in the everyday life of some animals.

Speech with its medial and instrumental capabilities, as the most advanced means to perceive and express information had furthered the development of semiotic and physiological properties of Language. At the same time, this development was driven by necessity or sufficiency for cultural or ecological exclusivity. These factors predetermined varieties and unique characteristics of language vocalisations. Further development of the spoken language routines has advanced semantics, phonetics and uniqueness of spoken languages grammatical constructions and their ethnosyntactic identity. No one can seriously assert that speech in its single universal form emerged simultaneously in all cultures and tribes without any pre-speech language tradition. All members of a group or tribe could not uniformly convey new situations as well as uniformly describe new objects by means of pre-speech media. Use in a communicative act of the elements of visual, audio and kinetic presentation was always and completely dependable, as it depends now, on individual physical skills and creativity in the individual choice of expression. It is easy to assume, that the same object or given situation is possible to describe from the standpoint of any of their multiple qualities. As an example, if an object has five specific qualities those distinctive qualities could or can be represented by different means by media use in language representation acts by members of a group: in variations of expressive forms, degree of reliability, hyperbolisation, completeness, etc. As a result of the homogenisation process, a loss of excessive representative elements ("loss of meaning"), consensually accepted for communicative circulation (expression and perception) new linguistic signs emerge (p.11: footnote 1). High cognitive 'value' must contain representational sign of an object or situation with no explicit qualities. Analytical at its core aspect

in the approach to pre-speech language sign formation initiated strong motivational impulses for an exploration of the environment and consolidated the position of specie in its life struggle on the new foundation – the foundation of extra-genetic information, acquired knowledge. It contains significant stimulus for cognition and is a major precondition to the success of the semantically practicable multimedial pre-speech interaction.<sup>6</sup> This could explain some mechanisms of the ‘mirror neurons’ function in achieving semantic conformity of the pre-speech expression with perceived scenes and objects of reality. Triad method allows defining pre-speech communication as the base condition of the process of cognition. The practice of pre-speech words vocalisation, to the contrary, did not produce direct heuristic cognitive impact, but rather an indirect one, via development of new parts of speech categories it was conveying. Syntax, as the triadic signs systematisation, possibly, triggered the formation of the organization of advances of human memory. Alternatively, physiological process of human memory development triggered syntactic perception and expression, further improved through the established syntactic abilities of spoken language.

In evolutionary retrospective the earliest processes of the triadic syntax use must coincide with the early evidences of the human cultural activity and be dated on the merit and in accordance with other material proofs of early conscious human actions. Physical material of human cognition, theoretical work, field research and dating of human cultural development are presented by Robert Bednarik, (Bednarik 1990, 2006, etc.). Evolution of drawing from as early as primitive elements of rock art into signs of modern writing has very long history and it is the product of the development of the human psychological ability to perceive still sign as triadic ‘noun’ and then as drawn, carved or printed verb, interjection, adjective, etc. It should be compared to evolution of the perceptual interpretation of sound as triadic ‘interjection’ and then as noun, verb, adjective, etc. in the process of the speech ability development, sharing the same

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<sup>6</sup> In linguistic terms, modern cognitive processes are a verification of semantic properties of vocabulary.

developmental tendencies materially reflected in semiotical morphogenesis of those media.

In distinction from the other hypotheses, Triad method of research on evolution of language is able to significantly expand the time frame of human linguistic activity, beyond the borders of vocal instrumentalizations of the language ability of human. Triad method determines the factor of conscious activity as primary and comprises the following:

- a) Process of communication by means of language,
- b) Process of cognition,
- c) Process of cultural exploration and changes of the environment.

No one of those processes precedes the other. They present in their comprehensive and natural interdependency as a singular product of natural selection. Depression or activation (as well as under- or overestimation) of one of those processes leads to changes in qualities of others and theoretical exclusion of one of them leads to the negation of existence of others. Consequently, it leads to definition of Language (la langage) as the cultural result of the biological ability for conscious perception and relevant syntactically structured executions of responses by number of single or mixed motor actions. Such a cultural result is the countless number of semiotic signs we are able to perceive and express (master) and which are founded the cultural environment of human.

The latest publications dedicated to parts of speech studies, do not contain any systematic referrals to a 'grammatical' structure of pre-speech language. This is a result of the absence of convincing studies in the field. Therefore, this situation partly decreases the completeness and value of the scientific information presented in these publications. Some assertions and conclusions, attempting to justify the correlation of the language's grammatical organisation with the cognition process, sound weak and incomplete. The process of cognition originates from the pre-speech period, long before the complete vocalisation (speech language development), when pre-speech language already had a structure and mechanisms for word formation. Attention needs to be focused upon the ethnological and anthropological data active so far. The systems of the associative arrays, which were presented in the pre-speech

language as the complex communicative acts (multimedia presentations) or their elements, symbolised the objects and phenomena of the surrounding world. However, in works dedicated to this theme authors assert that the objects and phenomena are 'symbolised' by the words or, at least, by sounds. As a result, the analysis of the cognition process in its connection with word formation in the latest publications acquires a speculative or weakly reasoned ground. Besides, approaches, which cut short the pre-speech stage of language evolution and its word formation tendencies, are not make it possible to evaluate and to study the principal role of interjections in the process of language evolution as a whole and the speech language formation, in particular.

It could be logical to assume existence of two stages in the process of language acquisition by children. The first one is biological, the universal triadic ('speechless') perception of reality emerges on the base and in parallel with the physiological maturity of sensory-motor system of a child (to about 9 month of age). In fact, such an emergence is a result of timely triggered and well-balanced physiological development of the receptive system of human and has its relevance to parameters setting theory (Chomsky 1980) in the same metaphorical sense as any biological 'presets' for bipedalism of humans. The second stage is the native matrix of speech language skills development by targeted continuous cultural impact on just emerged physiological ability. It can support findings in studies on developmental psychology (Gogate, Walker-Andrews & Bahrack 2001).

### **On the dependence of language and culture**

Contradictions, which arise in the study of language and culture as the ratios of particular to general, illustrate the deep incomprehension in distinguishing the two mentioned essences – of language and speech. A trivial substitution of terms occurs: initially, language identifies with the culture on the basis of its common semiotic nature, i.e. it is regarded as *la langage*, but then, without any refinements, it investigated as *la parole*, leading into the perplexing of authors themselves and pushing them into questionable generalisations. With a variety of approaches to the study of language (*la langage*) and culture, even recognising



the singularity of their sign foundation, for some reason, the thought remains untouched regarding the fact, that culture and language is one phenomenon examined from two different perspectives – from the perspectives of culturology and from the perspectives of linguistics, that language (*la langage*) and culture, being the single anthropological phenomenon, cannot be positioned in any subordinate of interdependence, but they are dependent only on their own parity, defined as conscious activity. Language (*la langage*) formalised, when basic stimulus, such as the survival of specie and natural selection, but not cultural tendencies as such, governed the development of pre-speech lingual tendencies. In turn, *la parole* is dependable on cultural influence, which is also assumed the basis of the theory of Linguistic Relativity. Thus, only a particular language (*la parole*), which arose on the foundation of the uniqueness of vocalisations with the development of the vocal habits and their forms, is relays to and depends on the uniqueness of its cultural foundation. Connection between language and culture is manifesting the primordial, biological basis of language and the medial, instrumental role of speech.

The similar contradictions contain notions, which set priorities relating cognition and culture. “Uniquely human cognition is a product of human culture” of M. Tomasello (2005) is an example. However, it is quite benefiting for the research, to keep in focus the composing factors (language, cognition, culture) in their developmental parity and equal interdependence.

## **Conclusion**

After years of domination by linguistic schools developed in 1960's, we can see the mounting scientific data and physical evidence coming to support Sapir-Whorf theory from the fields of archaeology, palaeontology, experimental psychology and cultural anthropology. Valuable, thoughts provoking researches on culture and linguistics conducted on a field by Everett (2005), Evans (2003), Nisbett & Norenzayan (2002) and others. However, no modern linguistic theories exist to accommodate new data and evidence so far. Linguistic schools of the 21st century remain in the bottleneck environment of 1960's ideas. The triad method can allow development of a new approach in evaluation of a wide range of

cultural processes and data, can lead to precise definitions of research subjects and traditional terminology.

The method presented in this paper allows us to define the evolutionary role of oral popular art and folklore, to emphasise and discuss certain evolutionary and historical frontiers, to assess the contemporary development phase of cultural and language aspects of human activity, to explore fresh approaches to some important issues of linguistics and psychology, as well as to formulate the etymology of art and aesthetics based on history, and not on philosophy. At the same time, the triad method has its own limitations, the principal one being the unresolved questions: why and how were triggered physiological actions evolutionally developed in human language ability. In spite of the evolutionary space extension, this question remains unanswered, and that can stimulate better-focused multidisciplinary studies and research. Implementation of the triad method in the disciplinary study of social and cultural development may facilitate the discovery of specific models of language acquisition in primitive cultures and exploration of the evolutionary development of these cultures, as well as the development or fine-tuning of the training techniques for the early stages of the study of native and foreign languages.

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