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# LINGUOSEMIOTIC AND BIOPHYSIOLOGICAL MECHANISMS OF EXPONENTIAL GROWTH OF CULTURAL CONTENT

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Abstract: The article deals with the problem of linguosemiotic and biophysiological mechanisms of language. The three-stage system of differentiation of the content plan and the expression plan in the neocortex, the mechanisms of growth of verbal information in the socio-cultural space are characterized.

Keywords: biopsychosocial phenomenon, verbal codification, molecule-thread, DNA computing, multiplexing, transitive system, technological singularity

The linguocultural approach corresponds to the general trend of modern linguistics - the transition from "immanent", structural linguistics to anthropological linguistics, which considers the phenomena of language in close connection with man, his thinking, comprehension of the spiritual world of man. The necessity of linguistic research for dialogue of cultures has become a universally recognized tendency, since in social reality language, according to E. Sepir, is a guide, gaining "increasing importance as a guiding principle in scientific study of culture.[6] Parameters of frame representations are characterized by the large-scale coverage of semantic field of cognitive process, therefore in modern cognitive linguistics the expression infinity of noetic field of language is widely used. Phenomena of language and thinking have a binary nature of interrelation: thought is materialized in language, and language signs reflect the content of culture. Through language it is possible to study the structure of consciousness, to partially study the cognitive processes going on in the human brain.

Philosophical problems of thinking are reflected in the phenomenological concept of the German philosopher Edmund Gustav Albrecht Husserl. The philosopher uses the term "noesis" (Greek ???s?? "thinking"; adjective "noetic") to refer to the underlying processes of thinking, which means the real content of the experience of consciousness. In this case, experience is seen as a pure being, not related to concepts. The word "Nous" was first introduced by the ancient Greek philosopher Anaxagoras and means "World Mind. The concept of noema (Greek ???xa, "thought"; adjective "noematic. "Noem is interpreted as a mental idea of the subject, the subject content of thought, the intentional correlate of noesis, the representation of the subject in the mind, which is connected with concrete notions. Noesis consists of two components - the sensation component (hyletische Daten) and the sense-making component (sinngebende Daten). Noesis is revealed as part of experience by means of phenomenological reduction. Hence, noesis can be seen as a psychic phenomenon encompassing acts of reasoning and rational thought.

According to E. Husserl, "the intensional in consciousness may turn out to be only an illusion, a hallucination, but nothing will change phenomenologically in this case, because perception is opposed not to the transcendental itself, which is inaccessible to consciousness in principle".[3] It should be noted that E. Husserl's phenomenology as a whole and its separate aspects have been reflected in the linguistic concepts of the late 20th and early 21st centuries. The concept of the noetic field of language is identical to the concept of the semantic field. This psychological construct denotes a large semantic

paradigm, covering lexical units of different parts of speech, the meanings of which have a common semantic feature. For example: the semantic paradigm of the word "idea" is paradigmatically related to the semantic field of the lexical units thought, think, decision, original, idea, etc. The ability of consciousness to categorize concepts is of great importance in comprehending the infinite semantic field of noesis. As far back as Aristotle in the Metaphysics distinguished ten categories in the ancient Greek language, where one of the categories is time.[1]

The centuries-old linguo-cognitive process of registration and expression of thoughts by means of language determines the development of a number of formal categories in the grammatical structure of languages. As A.A. Girutsky notes, "the system of natural language belongs to multilevel systems, because it consists of qualitatively different elements - phonemes, morphemes, words, sentences, relations between which are complex and multifaceted"[3] In the process of cognition, language categories partially correlate with some general categories of thinking". For example, the grammatical subject and predicate correspond to a certain extent to the semantic categories of subject and predicate in logic (in their different understandings), and the complement and definition correspond to the object and attribute. Formal categories of parts of speech, in particular grammatical categories of number approximate the semantic categories of quantity; formal categories of cases and grammatical tenses approximate the semantic categories of relation, time etc.

It should be noted that categorization in language is connected to features of formation and functioning of material substrates of language signs - neural formations. The Gestalt pyramid of neurons contains numerous detectors, including detectors of general and particular properties of objects and phenomena, which contribute to the comprehension of the meaning of grammatical categories.

The following statement by the American linguist Edward Sepir draws attention to the relative dependence between the form of reflection of the realities of life in thought and the form of linguistic expression: "We see, hear and perceive these or those phenomena one way or another mainly because the linguistic norms of our society presuppose a given form of expression." [6]

The concept is a cognitive unit, which is part of the whole picture of the world, reflected in the psyche, concentrating a sufficiently large amount of knowledge relating to one semantic field. Within the framework of cognitive science the question of the mechanisms of knowledge preservation in the form of a concept and their extraction in the speech act is considered. Psycholinguistics gives a rather vague justification of the concept, while the mechanisms of formation of this form of cognitive units in neurobiology and neurolinguistics from the point of view of functioning of the neural network can be identified more distinctly. According to neurobiology, the material substrates of language signs - neural formations in the cerebral cortex form gestalt pyramids, which become a component of the neural network. In the gestalt pyramid, each category is reflected in separate neuronal structural units - detectors. From this point of view, a concept can be considered as an ensemble of neural formations, in the detectors of which all values of the semantic field are reflected in the gestalt pyramid.

In modern cognitive linguistics, along with the term "concept," the terms frame, frame representation of knowledge, and script are widely used. Frame is aterm used in social sciences and humanities (such as sociology, psychology, communication, cybernetics, linguistics, etc.) and computer science to mean a semantic frame, a holistic representation of objects and actions within this representation. This term, first proposed by the American scientist, a specialist in artificial intelligence Marvin Minsky, has become one of the key concepts of cognitive linguistics. [5] In theoretical linguistics, the

term "frame" is given an interpretation by Ch. Fillmore. [6] T.A. van Dijk considers a frame as a structure containing generalized information about a stereotypical situation. [2.]

The concept of identifying different structures of knowledge representation is called frame theory. The origin of this theory is directly related to the problem of marking hidden elements of meanings in machine translation. R. Jackendoff calls such implicit language elements "missing features", and "scripts", "frames", "schemas" imply "aset of conditions, often of great complexity, which describe how a typical object or event looks like. For example, a room usually has walls and ceilings, gifts are usually given for birthdays, and food in a restaurant is often ordered after studying the menu... the point of frame theory is that it enables supplement the missing characteristics of concepts that have not been established when defining or categorizing them." [11]

To illustrate the peculiarity of cognitive representation and verbal reflection of cultural content in the definition, frame and concept, we give an example of several definitions of the term management:

- 1. The definition (Latin definitio definition) of the term "management" reveals the content (meaning) of the name by describing the essential and distinctive features of the phenomenon denoted by the name (the denotative of the name) a set of methods, forms and means of production management, allowing to use it most effectively. This definition enumerates only distinctive features of the phenomenon denoted by the term.
  - 2. Frame representation (frame) of the term "management":
  - the activity or ability to direct and control the work of a company or organization;
  - The action or ability to direct and organize the work of a company or organization;
- people in charge of a company or organization the action or ability to handle a situation which needs to be controlled in some way;
  - a group of executives within a company, management;
- The science of using technology, labor, raw materials, and money so that the company's goals can be achieved. In the frame representation, unlike the definition, not only the essential features of the phenomenon are denoted, but also the structure containing some information.
- 3. The concept "management" as a complex mental formation consists of a figurative component (an industrial and economic situation in which the head and subordinates participate, usually in the form of discussion of production problems and decision-making), a conceptual component (a complex process of providing effective purposeful economic activity of the organization) and a value component (norms and rules of effective management of economic activity of the organization).

In the sphere of collective consciousness of the language community there is an exponential growth of volume and potential of language. (Exponential growth is an increase of the value, when the growth rate is proportional to the value of the value itself, this process obeys the exponential law. Exponential growth is contrasted with slower linear or step growth...

Language as a quasi-semiotic system and a natural means of communication is capable of providing exponential growth and expanding the range of verbal information dissemination. Such a process is clearly manifested in the intensification of the process of derivation in modern society. The peculiarity of derivation in different languages is reflected in borrowing of the English word "competence" - competence - availability of knowledge, experience and skills necessary for effective activity in a given subject area, the quality of the person, who has comprehensive knowledge in a given area and whose opinion is therefore strong and authoritative. Russian borrowing uses the characteristic Russian suffix -ost. The process of derivation of this word in the Uzbek language, which

belongs to the agglutinative languages, led to the appearance of the lexeme kompetulilik, which is formed by adding two suffixes -li and -lik.

The specificity of the cognitive interpretation of linguistic units is manifested at all levels of verbal contacts, including the level of syntax. There is a tendency in Uzbek linguistics to increase attention to the study of the topic and the rheme as general language categories, including syntactic categories. At this level, the identity and uniqueness of the use of syntactic constructions is also observed. Identical expressions include the inscriptions on the packages of goods: the English phrase "Open no there. Open from the back" is translated into Russian by the identical phrase "Open not there! Open from the back. In Uzbek there are also phrases that are identical in content, but specific in terms of expression, using the reverse order of words (inversion): "Bu yerdan ochilmasin! Karama karshi tarafdan oching" (colloquial style).

Ethno-linguistic peculiarity is reflected in the formulas of speech etiquette. For example, in English to express agreement/disagreement with the interlocutor is widely used speech turn let's (let us). In the case of objecting to the interlocutor speakers repeatedly use this turn of phrase in the affirmative form, and then delicately express their opinion. In Russian and Uzbek to express a disagreement with the interlocutor and to voice their opinion a negative form is used.

- Let's drink coffee.
- -Let's have some tea.
- -Let's have some coffee.
- No, let's have some tea.
- Keeling coffee and chaylik.
- Yowk, keling yahshishi choi ichaylik (colloquial style).

Speech expressions of gratitude and appreciation are used in a peculiar way. In particular, in the English colloquialism guests often use such speech clichia, which are often addressed to the hostess of the house and emphasize the quality of cooking:

Thanks for the treat, everything was so delicious

In such cases, expressions similar in semantics to English turns of speech etiquette are used in Russian: Thanks for treats, everything was so delicious! There are also such turns of speech etiquette in Uzbek: Me?mondorchilik uchun ra?mat! Taomlar juda yakhshi tayurlangan, mazasiga gap yuq! (colloquial style)

According to the rules of the Uzbek speech etiquette most often thanks are addressed not only to the owner (or hostess) of the house, but also to those who took part in the preparation of the feast. Such expressions are used as "khizmat kilganlarning murody ?osil bulsin", ("may the wishes of all those who served the meal come true"), "taom tayorlaganlarning kuly dard kurmasin" ("may the hands of those who cooked the food be healthy", colloquial style). It is not customary to talk about the quality of the food; according to the rules of ethics, if it did not meet the requirements, it should not be said aloud both during the feast and after the end of the feast.

According to futurological predictions, an era of technological singularity may occur in the foreseeable future, when IT will be exponentially smarter than humans. [10] Futurologist Roy Kurzweil predicts that such a turning point will occur in 2045.[9] It should be noted that the computer is an analog of the human brain, and all IT are created by analogy with natural language. The analog cannot become the dominant of the original.

Supercomputer can not create a language for new generations of computers because it processes information within the limits of the program and database laid down. Only a person endowed with natural language intelligence is able to comprehend the new realities of life in the form of insight and emergence, and to implement new ideas in an

artifactual environment. The computer can surpass humans only if the chip is endowed with the properties of a living cell, capable of processing information at the level of DNA calculations. Modern science and high technology are not yet able to solve this problem (creating a "biocoputer" according to Neumann's background concept).

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