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Evolutionary Approach to Understanding Language and Thinking

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Abstract

The paper analyses language and thinking not as elemental power, but in evolutionary aspect. Language and thinking are examined as a product of evolution and result of specific type of activity – social activity and culture, interpreted as a social code, external memory, providing the continuity of social communication. Evolutionary approach applied in this research is based on the idea of global evolutionism. Evolution is interpreted as multilevel system and co-evolution of the system and the environment. This enabled us to define the levels of cognitive evolution, levels of language evolution, and to reveal the recursive mechanism of interaction between language and thinking.

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1. Introduction

Our understanding of the nature of language varies from the obvious view that language is a system of signs to the more complex that “language is the interface between consciousness and the brain, mind and world” (Chernigovskaya, 2013). Is language the means of communication or the means of thinking? Are language and thinking closely related and considered as the fundamental givens or as formed during the evolution of human-specific functions and existence? Whether a person is born with the innate ability to think, and speech is an external manifestation of a stream of conscious representations? Or that language and thinking are products of evolution, creation of a particular kind of activity - social actions and culture, understood as social code, a kind of external

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memory, ensuring the continuity of social communication? We are trying to answer these questions by examining language and thinking not as original thinking ability but in evolutionary terms.

An evolutionary approach to language is not as traditional as in biology. Even less accepted in linguistics is the use of natural sciences methods of language description. However, since the 1970s, a new scientific paradigm called evolutionary synergetic paradigm has developed in the scientific world view. The fundamental idea of this paradigm is the idea of a global evolution. Unlike the classical evolution, global evolution doesn't contrast variability and stability. Global evolutionism is based on historicism (formation, variability) and system (integrity, interdependence). Based on the ideas of global evolution an image of the world as self-evolutionary super-system has developed, in which any object appears as a component of integrity, as an event, and as a system at the same time. Here, any object is considered as a system, and not opposed to the process. Process is getting a universal characteristic, but it is important to take into account the integrity of the Universe, in which all constituents are systems, which are a kind of block of evolution, local sustainability, and integrity.

In this study, language is observed as such integrity. Speaking of integrity, we must take into account that the environment in which the system can evolve is also changing. Environment potentially contains different types of localization processes. Environment is a common beginning, acting as a carrier of various forms of the future organization, as controversial development.

It is important to note that in biology, a recognized leader among scientific disciplines in the development of evolutionary methodology, the following stages of the evolutionary paradigm are allocated: transmutation of species; classic evolutionism (Darwinism); the synthetic theory of evolution; and global evolutionism. In the evolutionary approach based on the idea of global evolution, the essence of the understanding of evolution is expressed by the term "Co-evolution" - the joint evolution of the system and the environment.

In our case, where the language is observed as an evolving system, culture and society is its environment. In the aspect of global evolution, every transformation turns out to be the co-evolution of the system and its environment. This approach generates new insights into the nature of language and thinking. U. Maturana (2001) was the first who presented a new theory of language in his publications "The Biology of Language", "Epistemology of Reality", "Biology of Cognition", etc. In U. Maturana's Theory of Autopoiesis, thinking appears as a recursive process in which the information is not retrieved from the subject of perceiving reality but is constructed by it. Language and culture play a role of environment, and movement within it determines the result of its construction. Maturana points out that what we accepted as sensory experience is a state of relative activity between neurons that generate new descriptions in the language field in the form of thoughts and the subsequent descriptions. The process of cognition appears as a process of adaptation to the environment in which language plays the decisive role: "words are ontogenetically established coordinators of conduct" (Maturana, and Varela, 2001).

Deacon T. W. (2007) defends a similar viewpoint, noting that language is not a formal computational structure, but a spontaneously occurring emergent adaptation that couldn't be deduced from any inborn mechanisms or explicitly or implicitly obtained statements. This is the result of self-organization and selection, and a biological basis for such unprecedented adaptation cannot be localized to any neurological structure as a result of a point mutation. This is co-evolution of neuronal base and social dynamics (Deacon, 2007).

The idea of a global evolutionism is the basis of the new scientific picture of the world; it enables the integration of sciences of nature and humans through evolution. If, in the twentieth century, the idea of global evolution served as a basis of the interdisciplinary integration of natural science within the framework of the research program of self-organization, today based on the evolutionary approach, integration of natural and humanitarian sciences has turned out to be productive. So, socio-synergetic domain focuses on revealing the logic of the social process, as does self-development in the search for common algorithms for social development, in its evolutionary-structural cycles. The stage of the global evolution, as connected with human evolution, unfolds in two complementary core planes as cognitive evolution and as social evolution. Cognitive evolution is characterized by increased complexity of thought; social evolution is characterized by increased cultural diversity. The common factor in cognitive-social evolution is language. The question is: how productive is the system-evolutionary approach, based on the idea of global evolutionism, in the study of cognitive evolution and of language development?

The hypothesis that we are going to justify is formulated as: "cognitive evolution and the evolution of language are two complementary directions of social dynamics, the study of the interdisciplinary research of a single subject - language-thinking-cognition". The basis of this approach is correlation of attitudes about the world, produced by the

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