

HPEPA 2019**Humanistic Practice in Education in a Postmodern Age 2019****LINGUOCULTURAL ENVIRONMENT OF THE LANGUAGE IN
THE ASPECT OF ITS FRACTALITY**

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Abstract

The article deals with the study of the fractal structure of the linguistic picture of the world as a system of national worldview. Despite understanding the universal nature of a language as a system of socially significant signs that carry information about the world, the picture of the world in any language bears the imprint of the national culture and mentality of its people. The paper describes the stages of studying the linguistic worldview, the formation of its national and cultural identity with the use of traditional and modern research methods: from the description of a language as a structural and systemic formation with a field structure, linguocognitive form of reflection of the world, the description of the linguistic and cultural space of the language to the study of the fractal language. The latest methods of language research are relevant in describing the complex process of cognition, understanding and interpretation of realities and phenomena of the real world through language. Fractality of a language is considered as the realization of the highest category of generalization, a way of structuring knowledge about non-linguistic reality in a language and language consciousness and tools to identify ways of verbalization of knowledge and ideas about the world on a single scientific methodological basis. The article describes the fractal properties of the word as the main nominative unit of a language, the invariant unit of the language system and the fractal unit.

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Keywords: Ethnic worldview, fractality, invariance, linguistic worldview, linguoculture, word.



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1. Introduction

With the formation of anthropocentric linguistics in the late 20th – early 21st centuries the interest in the study of the interaction of language and culture, national mentality, ways of verbalization of cultural and historical experience of different people and the representation of the human factor in the language picture of the world on the material of language units at different levels has increased in science. However, there are few fundamental studies describing the global image of the world and the role of different linguistic means in its formation. The object of research in the works are either a General characteristic of the mechanism of linguistic division of the world, or a description of any fragments of the integral linguistic picture of the world (Apresyan, 1995; Arutyunova, 1998; Brutyan, 1973, 1976; Gachev, 1988, 2003; Maslova, 2001, 2007; Serebrennikov, 1988, etc.). The meaning of the word as a linguistic and cultural phenomenon is also considered quite superficially, namely by describing its national and cultural specificity.

2. Problem Statement

Despite the fact that the problems of studying the linguistic picture of the world (without the use of the term) were posed in ancient philosophy, the interest in describing the ways of verbalization of cultural and historical experience of cognition of the world by different linguistic and cultural communities has not faded to this day. In modern science, language modeling is actively investigated as a reflection of the objective world in national languages through language units of different levels (Gachev, 2003; Kubryakova, 2004; Mokienko, 1986; Tsivyan, 1990; Yakovleva, 1994). In the linguistic literature, there is the use of different terms to denote the verbalized system of worldview of the people: "interworld" (Humboldt, 1984), "language intermediate world" (Abaev, 1948, p. 47), "language representation of the world" (Dridze, 1980, p. 56), "language picture of the world" (Kubryakova, 1996; Serebrennikov, 1988; Vendina, 1998; Yakovleva, 1994), "language model of the world" (Tsivyan, 1990, p. 5), "image of the world" (Gachev, 1988, p. 7) and some others. Among the scientific researches, in which the analysis of the whole picture of the world or its fragment is presented, it is possible to name such widely known works as the collective monograph "The role of the human factor in the language. The language and the picture of the world" (Serebrennikov, Kubryakova, Postovalova, Teliya, & Ufimtseva, 1988), "National images of the world. General issues" by Gachev (1988), "The linguistic basis of the Balkan model of the world" by Tsivyan (1990), "Fragments of the Russian language picture of the world: Models of space, time and perception" by Yakovleva (1994), "The Russian language picture of the world through the prism of word-formation (macrocosm)" by Vendina (1998), "Phraseological picture of the world: from world outlook to world conception" by Khairullina (2000), "The language and the national picture of the world" by Popova and Sternin (2015), etc. With such a variety of terms, the main principle of the study of linguistic worldview is the recognition by scientists of the conceptual triad in the cognitive process: the objective world – thinking – word. However, the word is an element of a particular language, which reflects the prism of the worldview of the people who speak it. "Language reflects the conditions of existence of the people and contains the names and realities specific to this people", according to Wierzbicka (1996, p. 35). That is why, despite the universal mechanism of reality reflection and the nomination process, the word of the

national language has semantic-functional and grammatical particularity, reflecting the particularity of the language as a whole.

3. Research Questions

Today, the concept of "language world picture" is firmly included in the scientific and conceptual apparatus of linguocognitive, linguocultural and linguophilosophical research. While the question of the fractality of language and the linguistic picture of the world is today quite relevant, but little studied problem, although more and more humanitarian research is based on the principles of fractality. "Fractality is rapidly becoming one of the most capacious metaphors for explaining and understanding the world", according to Galushko (2009, p. 24).

The concept of fractal (from lat. *Fractus* – consisting of fragments) is widely used in philosophy (epistemology), in natural sciences, mathematics. The study of fractal properties of language is devoted to a few works related primarily to the machine processing language data (Kretov & Voronina, 1995; Polikarpov, 1998), with the study of literary texts from the point of view of the manifestation in them of such fractal properties as cyclicity, unevenness of the text, scaling and some others (Morozkina & Safina, 2015). The general characteristic of the fractality of the language system is presented in the works of Kretov (2019), Pareyon (2007).

The question of the study of the world picture in language as a system with fractal properties is raised for the first time. Stepanov called fractal "the highest category of generalization" (as cited in Tarasenko, 2011, p. 227) of information about the world. The linguistic picture of the world acts as a system of national worldview, a way of structuring knowledge about non-linguistic reality in the process of cognitive and evaluative activity of the linguistic and cultural community. The structure and linguistic-cultural space of the linguistic picture of the world are characterized by complexity and multilayered views of the world. The fractal principle of their description makes it possible to identify the ways of formation and interpretation of the world in the language. Fractal "is not a mathematical fantasy, it is one of the ways to describe complex phenomena and a tool that facilitates the awareness and perception of this self-similarity", according to Galushko (2009, p. 23-24).

4. Purpose of the Study

The aim of this work is the study of words as linguistic-cultural phenomenon and an element of the language world picture in the aspect of fractality of the process of cognition itself and the language system as a form of reflection of extralinguistic reality and consolidation of the results of cognition. The relevance of the study is due to the need to use new approaches to the study of language as a product of culture, on the one hand, and the material object of the world, endowed with all the most important properties of the universe, on the other.

Any word, representing an act of cognition, the formation of cultural meaning and the act of naming, harmoniously fits into the thesaurus of the language as its segment. Due to the systematic nature of the language, and in particular its lexical fund, the word "transmits" the cultural meanings formed in its semantics to other words, thanks to paradigmatic, syntagmatic and associative-derivational connections.

These connections are due to both ontological and socio-cultural processes. According to Hirsch (1988), an American scholar, editor, and critic, "to know many words is to know many things" (p. 12) because it is nominative processes that expand the knowledge of the world in native speakers. Thus, the word is an invariant unit, in which cognitive, semantic, grammatical, cultural and pragmatic registers, characterizing the process of cognition of the world by a person, the creator and user of the language, converge in focus. Word-text-global image of the world – this is the structure of the language system as a fractal.

5. Research Methods

The work uses General scientific methods and techniques of scientific research-collection, observation and description of language material. The methods of component and comparative analysis are also used to describe the ways of formation of cultural connotations in the semantic structure of the word as a linguistic and cultural phenomenon. The theoretical study is based on the material of Russian cultural concepts, the symbolization of which is realized in folklore texts. Features of national interpretation of separate words-concepts are analyzed in the process of description of background knowledge and representations connected with them, and the analysis of linguistic and cultural space of folklore texts. The conceptualization of world realities reflects the fractality of the process of cognition itself, which finds expression in the linguistic picture of the world.

The leading method in the work is the linguocultural method, which allows to study the cultural space of the language in its integrity and describe its culturally labeled components as fragments of a fractal.

6. Findings

The formation of the anthropocentric paradigm of scientific knowledge in linguistics shifted the emphasis from the analysis of language as a structural system of education to the study of the language system as a part of national vision and worldview, when as a result the knowledge of the cultural and historical experience of the people receives a linguistic form. The processes of categorization and conceptualization are characterized by the level of historical development of a society, its institutions and the person himself. Even in ancient philosophy, the problems of reflection by the word of non-linguistic reality (Aristotle, Plato, Protagoras) were posed. Classical German philosophy has made a huge contribution to the formation of the theory of knowledge, including at the level of linguistic division of reality (V. von Humboldt, H. Steinthal, I. Herder, I. Gaman, J. Wagner, I. Fichte). The intensification of research on the relationship of objective reality, thinking, culture and man formed the concept of a world model (world view, world image). Modeling is one way of mediated cognition. "This method is universal – the world itself, its essential properties and connections are modeled, every single fragment of the world is modeled, according to Khairullina (2012, p. 27).

Apresyan (1995), describing the characteristic features of the language picture of the world, defines it as a way of perception and organization of the surrounding reality, which is mandatory for every native speaker. Language's way of conceptualizing reality is partly a universal and partly a nationally specific view of the world. All the factors that are involved in the formation of the language picture of the world, such as the objective world, the thinking world, the language world in a certain way affect the specificity

of the world picture, bringing to the forefront important elements and pushing into the background all these secondary and irrelevant for people, native speakers.

Of course, the national-cultural specificity itself is formed outside the language: under the influence of the national mentality, within the framework of traditions, customs, on the basis of the system of material and spiritual values of the linguistic and cultural community, but it is always reflected in the cultural connotation of words created by carriers of national-cultural information. The national picture of the world acts as a way of mastering the world and a way of adapting the people, a native speaker of this language, to external conditions; "the picture of the world is necessary for the man to adapt to the world in order to gain a clear comprehension of it", according to Valiakhmetova, Fatkullina, Suleymanova, and Khairullina (2019, p. 34).

Along with the term linguistic picture of the world, the term linguoculture is widely used in linguistics. These are closely related but non-identical concepts. It is well known that the language picture of the world is a system of worldview of the people, the native speaker. And the cultural marking of its content is undoubted if the concept of culture is considered in the broadest sense – as a result of the development of the world by a man. And language itself is a product of culture. However, if we talk about the national culture and mentality of the people, it becomes obvious that the national language pictures, describing the objective reality by means of a specific national language, differ from each other. It is these cultural differences that determine the formation of linguoculture, which is "a system of representations about the world, clothed in linguistic signs, created by images of consciousness" (Krasnykh, 2012, p. 69). The content of the linguoculture and, accordingly, the linguocultural space of the language consists of national images of the world, culturally marked linguistic units of different levels, precedent phenomena, cultural meanings, symbols and archetypes conditioned by the ethnic worldview, which receive linguistic expression.

Currently, the term "linguistic picture of the world" is widely used in linguistics. The range of issues overlapping with the problem of linguistic worldview, is explored in the works by Apresyan (1995), Karaulov (1987), Kubryakova (1996), Popova and Sternin (2007), Shmelev (2002), Stepanov (as cited in Tarasenko, 2011), Teliya (1996), Vendina (1998), Wierzbicka (1996, 2001) and others.

According to the concept of von Humboldt (1984), "each language forms a circle around the people to whom it belongs, to trespass beyond which is possible only by entering into another circle" (p. 80). Questions of national specificity of language phenomena in the XX century became the subject of research of philosophy, interdisciplinary directions of research (linguoculturology, conceptology). The problems of describing language, thinking and the universe in an inextricable connection are reflected in the works of prominent philosophers and linguists, such as Heidegger (1991), Kornilov (2003), Lakoff (2004), Losev (1982), Popova and Sternin (2007), Ter-Minasova (2000), Wierzbicka (2001), Wittgenstein (1921), etc. Modern linguists agree that the peculiarities of language conceptualization of the world form the linguistic and cultural space of the language.

Modern linguistics of the twenty-first century, having become a widely integrated and multidimensional science, has included in the field of its recent research methods and techniques for the study of a number of related humanities (cultural, cognitive and philosophical aspects of the description of language) and natural sciences. The latter include the active introduction of the modeling method in the

study of language, machine methods of processing language data, the study of language as a fractal system, etc. "Humanitarian and philosophical thinking gradually begins to master the principle of fractality", according to Galushko (2009, p. 23). The concept of linguistic fractal was consistently presented in the works of Khakhalova (2007, 2011), which revealed its essence on the material of metaphor as an act of cognition and discourse.

When describing the language system as a reflection of the process of cognition of the world and ways of verbalization of the results of cognition through language units of different levels, special attention is paid to the word as a basic element of the language. As you know, the word is characterized by a whole complex of properties, accumulating the most important features of the language as a whole. Derived and non-derived words represent non-linguistic reality in different ways. As you know, word-forming resources are involved in the implementation of the main task of the language – to provide all aspects of human life and activity with new names. But new names are created according to the models of a particular language and using certain affixes. For example, in Turkic languages there is an affix that is absent in Western European languages – an afterword, there are also no prefixal affixes, but the richness of the expression of grammatical meanings is not limited to the function of affixes, such a role is played by auxiliary words.

As you know, the basis of the language picture of the world is the thesaurus of language. Linguistic development of the problem of the language picture of the world started in connection with thesaurus study of vocabulary, with the development of the principles of ideographic dictionaries, most comprehensively represented in the works of Karaulov (1987). In foreign linguistics, the thematic-ideographic classification of vocabulary was proposed by the German linguists Hallig and Wartburg (1963), according to whom such a scheme reflects the global structure of the universe and the place of a man in it. And if we talk about the fractality of language, it is the word that acts both in the cognitive-evaluative activity of a person and in the language system itself as the segment that reflects the realities, phenomena and concepts of non-linguistic reality as a class, fixes in its semantics their culturally marked interpretation and is characterized by invariance. Invariance refers to an abstract structural unit of language, in particular a lexeme, which exists outside of its concrete forms of implementation in speech, characterizing the system of language. For the first time in scientific circulation this mathematical term in linguistics was introduced by Hjelmslev (2006). Initially, the concept of invariant unit was considered on the material of phonetics and phonology (Trubetskoj, 2012), later it was used to characterize word-formation processes in word formation (Ulukhanov, 2012), morphology (Plungyan, 2013), and only in the middle of the twentieth century was used to describe the systematic vocabulary (Smiritskij, 1956; Zvegintsev, 1982). The invariance of the word as a unit of vocabulary and its invariant lexical and grammatical meaning was not recognized by all lexicologists. For example, Shmelev (1984) proposed the term "diffusivity" to characterize the semantic structure of a polysemantic word. Without going into the details of scientific discussions, we note that in the aspect of the theory of cognition and fractality of language, the term invariance, in our opinion, is quite acceptable, since we are talking about ways to verbalize the experience of knowing the world through the main nominative unit of a language.

Fractality is a universal property of existence, in which the philosophical law of the gradation of knowledge (from the simple to the complex, from the sensory-figurative to the logical understanding of the world) is realized. Language, being a form of reflection, comprehension and interpretation of the objective

world, is built on the same principle. In modern integrated science, the term fractal is used in parallel with the concept of the field model of language. It is no coincidence that the vocabulary of any language is studied as a set of thematic, semantic, semantic-functional fields, that is, semantically and formally related segments (fragments). In cognitive linguistics they deal with the concept sphere. Therefore, the system organization of language, considered in different aspects, is a set of elements, the semantics of which forms the semantic continuum of the language as a whole. And as Simonov (2011) notes, a small part (segment) of the fractal contains information about the entire fractal. In the anthropocentric interpretation of the element of the field (fractal) structure of language, the word accumulates the experience of cognition, uniting with other words on the basis of identity or difference of form and content. "The specificity of the linguistic fractal is that it contains both difference... and identity", according to Kretov and Voronina (1995, p. 270).

Speaking of the fractal essence of language, linguists define language as "linguistic matter", subject to all the laws of the development of the universe. That is why the realization of the principle of the Trinity of matter (material form), energy (thought work) and information (the content side of language as a result of interpretation of objective reality) is distinguished in it (Simonov, 2011). In accordance with this, the biological, psychological, intellectual and social traits of the speaker are realized in the language. If its biological capabilities mean the physical ability of a person to reproduce and perceive articulate speech, then its psychological and intellectual properties reflect the ability of a person to comprehend the world around him and reflect on it. And since language is the result of human sociocultural development, it becomes clear that language can be described on a General ontological and epistemological basis, as any element of the universe.

The language system has such fractal properties as recursiveness, or cyclicity, scaling, uneven verbalization of different parts of cognition. The segment of the linguistic fractal is the word. It has a material form, content (lexical meaning) and is the result of understanding and interpretation of objects of reality. Every new word in the language is a new knowledge. But the new knowledge is based on the knowledge already mastered by native speakers. For example, the meaning of a derived word becomes clear only in the process of its reference to the producer. In the knowledge of the world, also, each stage of a series of cognizable objects is a reflection of the previous one. It is important to note that the interpretation of the universe by speakers of different languages has its own peculiarities, due to extralinguistic factors, namely the peculiarities of the cultural and historical development of the people. Cyclicity in the structure of the language system is a gradual complication of language matter (philosophical law of spiral evolutionary development): sounds – syllables – morphemes – words – phrases – sentences – text – a complete language system. Each level of the language is more complex than the previous level on which it is built.

The fractality of language is most clearly expressed in the text, especially artistic. "The analysis of the fractal structure of the literary text should contribute to the interpretation of its meanings, taking into account the author's intentions", according to Morozkina and Safina (2015, p. 970). They note such properties of the fractal in the literary text as polyphony of meanings, the disparity of individual plot lines, the realization of deep meanings, thanks to the textual and subtextual organization of the linguistic fabric of the work.

Scale as a property of the linguistic fractal is manifested in the fact that in the segments of the fractal more information is embedded in the deep semantic and cultural environment than in its external form. Thus, any word for representatives of one linguistic and cultural community is characterized not only by a lexicographically fixed meaning, but acts as the "tip of the iceberg", which is understood as the totality of all cultural knowledge about the subject named by the word. In Russian linguocultural community, for example, the word *birch* means not only a deciduous tree of a certain breed and with certain external features (white bark with black spots, thin long branches with patterned leaves, etc.), behind this word there is a whole complex of cultural knowledge and ideas as a symbol of Russia, it is associated with a girl, whose images are vividly represented in folklore and Russian poetry. Knowledge of mystical (divination, medicine) and pragmatic character (practice use of timber, bark, birch juice spring, of leaves in daily life) and much else reflects role this tree in life of Russians. The symbolization of the cultural concept of birch is vividly realized in the folklore texts dedicated to this tree-songs, proverbs, omens, conspiracies. "A lot of juice in the birch – to a rainy summer", "Birch blossoms – oats can be sown", "White birch, but the tar is black", etc.

The image of the birch in folklore has always symbolized the feminine, in many fairy tales and songs the girl turns into a birch. Slender camp, green scarf, loose braids girls resemble the trunk and branches of birch. For example, in the folk song "In the field the birch stood, in the field the curly stood..." the image of the birch is associated with loneliness.

Words-concepts are part of a certain conceptosphere, connected in language with other fields, which in turn are connected in language consciousness with other conceptospheres. Thus, the word birch is included in the field "Flora", which is culturally associated with the fields "Russia", "Superstition", "Life", "Rituals", "Folk healing". They are characterized in the picture of the world by their semantic and cultural connections. The cultural meanings of the concept of birch, therefore, permeate a large space of the semantic continuum of the Russian language. And the same processes characterize many other concepts. The global image of the world of the Russian people is formed from the correlation of linguistic and cultural space of different fields.

An interesting fact is that in other languages this word may be missing, for example, in Chinese, and the cultural knowledge surrounding this word as a background may differ in different linguocultures.

7. Conclusion

Thus, the fractality of the language system and the language picture of the world is due to both the peculiarities of cognition of the world by different ethnic groups, and the specifics of the linguistic division of reality through language. Language as a combination of material and spiritual-cultural elements, is a system in which a single segment (word) contains information about the entire language system. The thesaurus of language is a repository of knowledge and ideas about the world, and words, thanks to their semantic and formal connections, form an integral system of the worldview of the people speaking a particular national language. The linguistic and cultural space of the language reflects the prism of the culture of the people and the peculiarities of their interpretation of non-linguistic reality. The principle of the trinity of material form, content components, connotative evaluation determine the ontological basis of the existence of language as a means of cognition and verbalization of the worldview of the people. The

description of the linguistic picture of the world with the use of the fractal principle is a qualitatively new level of his research, since it makes it possible to integrate the achievements of modern scientific thought.

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