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# Trends In Creative Neologization In The Language Of Modern Science

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**Abstract:** This article analyzes the content of trends in creative neologization in the language of modern science, the issues of word-formation practice in the modern science language are considered. The trend of neologization in post-non-classical sciences is analyzed. The features of the author's neologization in science are revealed. It is noted that the author's neologization is the main way of linguistic-semiotic expression of new properties, aspects and characteristics of the object under study. As an illustration, work on neologization in such areas of post-non-classical sciences as the theory of virtuality and synergetics is considered.
**Key words:** Post-non-classical science, neology, author's neologization, trend, semantics, new realities

## Introduction

Since the second half of the 20th century and the beginning of the 21st century, humanity has entered a new world of global changes and transformations. The question is: what are we leaving and what are we arriving at? This question can be answered this way: a radical transformation of the social world is taking place - a transition from a bipolar world to a multipolar world; in culture - the transformation of modernist culture into postmodernism and multiculturalism; n science - the transition from non-classical sciences and their images to post-non-classical sciences; in technology - from industrial technology to IT technologies, nanotechnologies and the Internet. All this turned out to be a powerful innovative upheaval, which became an extralinguistic accelerator of the neologization of the vocabulary of all varieties of languages - national languages, languages of art, management, technology etc. This circumstance forces us to pose a big task of revealing and interpreting the morphological and semantic methods of forming neologisms[1, p. 10]. Most of all, this concerns the language of science, which is a means of scientific communication, as well as the storage, transmission and use of scientific knowledge. The cognitive norm of this language is objectivity, truth and rigor [2, p. 212-213]. This is a prerequisite for solving the problem of standardization of scientific terminology[3].

## Literature Anaiysis

In the conditions of "neological-lexical" bifurcation in the language of modern science, becomes importance and relevance is the study of extralinguistic and intralinguistic aspects of the formation of neologisms in science, in particular, the accumulation of new lexical units in the vocabulary, for example, of post-non-classical sciences. However, there are almost no works devoted to this issue. From the few studies we can point to the article by Reshetnikova E.V. "Semantic innovations of post-

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non-classical science", which examines issues of organization and aspects of the semantic field of post-non-classical science. [4] Nevertheless, we consider the analysis of the creative aspects of neologization, manifested in post-non-classical research and development, to be an important direction for reflecting the trend of neologization in the language of modern science. In the 80s of the last century, the Russian philosopher Stepin V.S. introduced the neologism "post-non-classical rationality" into scientific use. Following this, the term "post-non-classical" ("post-non-classical") began to be used as the name of the newest modern science.[5, p. 152–166]. It seems to us that the neologism "post-non-classical science," which has now become a commonly used concept, may well express the changes that have occurred not only in science, but also in other areas of social reality. In this sense, we can say that humanity has entered a new world of post-non-classical society, culture, science and technology.

**Results**

Currently, we are witnessing a phenomenon that linguists call a "neological explosion." A visible manifestation of this phenomenon is that within the area of functioning of the language of modern sciences, the latest disciplinary and interdisciplinary neological glossaries are being created. A striking example of this is the dictionary of virtual terms developed by the Russian scientist N.A. Nosov. We observe the same thing in other areas of scientific knowledge. Another example from the sphere of ordinary word usage: expert linguists note that in 2020 alone, 675 new words were included in the spelling dictionary of the Russian language.

In the process of forming a new class of sciences, which are post-non-classical sciences, a fundamental paradigmatic change occurred in their object and subject of research. The study of new multisystem, nonlinear, virtual, co-evolutionary, "human-sized", as well as microphysical objects led to the advancement of, at first glance, paradoxical ideas and concepts, and with it the corresponding neologisms. For example, in quantum physics such neologisms as "colored quarks", "strange particles", "quark flavor", etc.

Armed with new ideas, conceptual and methodological tools, scientists working in the branches of post-non-classical sciences began to study objects and phenomena that were beyond the scope of classical and non-classical sciences. These include synergetic and virtualist approaches to the study of natural and social systems, mosaicism as an attributive phenomenon of ontological and epistemological structures, nonlinearity, constructiveness and reflexivity, which are properties of self-organizing systems (for example, the human brain, psyche, mentality, society, etc.). Accordingly, research in the world of new sciences, represented by such areas as global studies, universal evolutionism, computer technology, synergetics, virtualistics, the theory of the holographic Universe and others, have become a source of exponential growth of neologization in the vocabulary of the language of science.

Every scientist working in a new direction of science either uses borrowed words to designate an object of research, or comes up with neologisms with which he nominates the properties of the object under study. In the linguistic science of neology, neologization is interpreted as the process of replenishing the vocabulary with a word, the meaning of a word, or a phrase that has recently appeared in the language. The main features of a new word are, or should be, freshness, absolute novelty and unusualness. For example, the neologism "quark flavor" used in quantum physics has such characteristics. In it, the semantics of this neologism is expressed through other neologisms:

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“strangeness”, “charm”, “beauty” and “truth”. This example well illustrates the creativity of neologization in science.

The cognitive mechanism for the implementation of neologization is, firstly, the constructive and creative work of thinking, and secondly, the generative function of speech. This function manifests itself in the extraction from the vocabulary reservoir of the word that will become a neologism. The world of new realities is revealed to a person only through new words, which are initially embodied in the clothing of neologism lexemes. According to the neological approach, no science is possible without neologisms, new words or new interpretations of old words to describe and explain reality in a new way.

It follows that neologisms are, at the same time, both a creative and innovative resource for enriching the lexical arsenal of science. If we keep science in mind, then we can say that the currently emerging post-non-classical science is generating a new class (cluster) of neologisms.

And this is happening in the context of a change in methodological paradigms and guidelines. This point has been noted by other researchers: "

If in classical philosophy the main method of research is logic, in non-classical philosophy it is the methodology of scientific research, then in post-non-classical philosophy in the process of research the scientist not so much discovers meaning as constructs it, translating the practical understanding that was originally inherent in him as a social figure into the language of his science”[6, p. 305-308].

The innovative feature of neologisms is, as noted above, their absolute novelty for the majority of native speakers, and in our case, for the professional community of scientists. In science, most introduced neologisms are the author's own. Naturally, the authors use methods known in linguistics for creating neologisms - word-formation derivation, semantic derivation, borrowing words from other languages. Using these methods of neologization, the great scientist-encyclopedist M.V. Lomonosov enriched the Russian language of science with the words “atmosphere”, “thermometer”, “horizontal”, “refraction”, “acid”, “alum”, “specific” (weight), “minus" etc.

There is a neological rule, according to which the main task of the author is to convey to the reader his ideas in a concise, but maximally complete language form, the content of the subject of research, which the author understands well. However, in practice, there are successfully introduced neologisms, but there are also unsuccessful ones that are not perceived by the scientific community. In the second half of the 19th century, the German physicist Oersted in one of his works introduced the neologism “electric conflict,” which never came into scientific use. This circumstance indicates the linguistic and semantic complexity of entering author’s neologisms.

The author of these lines, in turn, made an attempt to introduce some neologisms to designate certain characteristics of the object he was studying. They are “semantic virtuality” and “digital-economic revolution”. Future research will show to what extent the neologisms we proposed turned out to be legitimate and justified.

Thus, the author's neologization is almost the only way of linguistic-semiotic consolidation (expression, designation) of the emerging properties, aspects, characteristics of the object under study. True, new realities need new words. A striking example of this kind of linguistic-semiotic situation is provided by modern trends in post-non-classical sciences. As an illustration, let us consider the work on the neologization of the object and the problems of virtualist research and development.

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Since the second half of the twentieth century, research has been intensively carried out on the problem of the phenomenon of virtuality. It turned out that this phenomenon has many previously unknown properties and states, and which manifest themselves in the processes of movement, change, transformation of objects and systems of nature, society, culture and technology [7, p.126-127]. Scientists had to, so to speak, neologize the numerous characteristics and states of the phenomenon of virtuality. A successful step in this direction was made by the Russian scientist N.A. Nosov, who developed the theory of virtuality, which became the paradigmatic core of the complex doctrine of virtuality. The result of over ten years of intensive work by the scientist was a dictionary of virtual terms, which included 100 neologisms, which he himself gave interpretation and explanation. Here are some of the neologisms compiled by the scientist:
Virtual-is a generalized name for virtual events, virtual reality, a fragment of virtual reality as opposed to sobe.
Virtolution-is the generation of a multi-level self in the genesis of an object.
Virtualizer-demiurge; creator of virtual worlds.
Virtual philosoph -is a polyontic philosophy that presupposes the coexistence of multiple ontological realities with a virtual type of relationship between them.
A virtual person-is the sum of all virtual realities of a person [8].
Perhaps not all neologisms compiled by N.A. will enter into scientific use, but still the very fact of the existence of such a dictionary will give a cognitive impetus to further research into such an interesting object of scientific research as the phenomenon of virtuality.
Of no less interest is the consideration, in the aspect of the neological precedent, of the semantics and semiotic structure of neologisms that express objects, characteristics and patterns of synergetic systems. Here are some of them:
Repeller-is a set of parameters and their values that “repel” the synergetic system from the equilibrium position.
Dissipativity-is the ability to exchange energy and information with the environment and within one’s structure.
Bifurcation- system has the ability to transform in several directions.
Attractor - is a state of a synergetic system to which it strives as its goal.
As you can see, synergetic neologisms nominate phenomena that represent completely new objects of scientific research. Note that with synergetics gaining the status of an interdisciplinary area of research, many synergetic neologisms are now perceived as scientific terms with an established meaning, since they began to denote concepts, principles and categories that reflect the patterns of self-organization of natural, social and mental-cognitive systems.

**Conclusions**

1. In the sphere of modern science and scientific activity, a kind of “neologistic revolution” is taking place, manifested in the exponential growth and spread of neologisms.
2. The current global linguistic precedent is that in world science, including post-non-classical sciences, a powerful linguistic-semiotic layer of neologisms with new semantics is being formed, leading to the modernization of the language of science and technology.
3. The main source of language modernization is the emerging new social, cultural, scientific and educational realities, which, being extralinguistic factors, are nominated by neologisms.

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4. The most active neologization occurs in the field of science and technology, especially in that part that is represented by post-non-classical sciences and technologies.

**Practical recommendations**

1.Currently, new creative courses are taught in higher educational institutions, containing not only proven terms and concepts, but also many neologisms. In this regard, it is necessary to observe linguistic and semantic correctness and adequacy when using them in lectures and practical classes.
2. When introducing new terms and neologisms into the glossary of academic subjects, as well as their use in the classroom, the norms and standards of scientific rationality should be taken into account.
3. Practice preparing presentations with a visual illustration of the corresponding neologisms, indicating options for interpreting their meanings.
4. The practice of using the latest scientific and educational words and neologisms should be aimed at improving the culture of thinking of students.

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