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Cybernetics is the Important Source of Modern English Lexical Replenishment

Стаття присвячена дослідженню кібернетики як джерела збагачення сучасного лексикону. У статті представлений короткий екскурс в історію кібернетики. Вона також знайомить з сутністю кібернетики, пропонує найбільш яскраві визначення науки, охоплюючи аспект розвитку і походження кібернетики, і приділяючи особливу увагу її взаємозв'язку з когнітивною лінгвістикою. Основним акцентом статті є твердження, що кібернетику можна розглядати як потужне і ефективне джерело поповнення англійського лексикону.

Ключові слова: кібернетика, когнітивна лінгвістика, когнітологія, кібернеологізми.

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Статья является коротким экскурсом в историю возникновения кибернетики. В статье также кратко освещается сущность кибернетики, предлагаются наиболее яркие дефиниции этой науки, при этом затрагивается

аспект развития кибернетики и акцентируется внимание на связи с когнитивной лингвистикой. Основным моментом статьи является утверждение, что кибернетику можно рассматривать как мощный и эффективный источник пополнения современного лексикона английского языка.

Ключевые слова: кибернетика, когнитивная лингвистика, когнитология, кибернеологизмы.

Trotsiuk A. M., Yasinska O.V. Cybernetics is the Source of Modern English Lexical Replenishment.

The article is dedicated to the research of cybernetics as the Source of Modern Lexical Replenishment. The paper presents a brief excursus into the history of cybernetics. It also introduces the essence of cybernetics, offering the most vivid definitions of the science, and touching the aspect of the development and origin of cybernetics, focusing the attention on its interrelation with cognitive linguistics. The highlight of the article is the statement that cybernetics can be seen as a powerful and efficient source of replenishment of the English lexicon.

Key words: cybernetics, cognitive linguistics, cognitology, cyberneologisms.

Statement of the problem and its significance. Relevance of the article is determined by the fact that cybernetics is the source of new modern lexicon replenishment. This is an extremely complex process, the content of which is largely determined by many aspects.

The objective of this article is to present a complex description of cybernetics as an important source of vocabulary replenishment in the English language, the study of the features of its origin, nature, function and interrelation with cognitive linguistics. This objective involves the following **tasks**:

- 1) to analyze linguists' views on the questions concerning cybernetics;
- 2) to consider and analyze interrelation of cybernetics and cognitive linguistics;

3) to determine the role of cybernetics as an important source of contemporary lexicon replenishment.

The subject matter of the study is the study of the interrelation of cybernetics and cognitive linguistics.

Scope of the study is cybernetics and cognitive linguistics.

The presentation of the basic material and reasoning of the study results. It is well known that cybernetics is the science of management of complex dynamic systems, the processes of collection, processing and transmission of information in living organisms and technical systems [1, 5]. The primary means of information processing are the modern electronic data processing machines (computers), which manage to perform a number of functions of human intellectual activity [2, 203].

The primary goal of cybernetics was the calculation of information, but then it has found its reflection in linguistics by establishing vocabularies on computer science and programming, Internet and applied linguistics.

One of the main tasks of applied linguistics is the improvement of electronic dictionaries that make work of linguists and translators easier by modern source of replenishment of the English language vocabulary. We believe that cybernetics can serve as a source of language neologisms, namely cyberneologisms that appeared as a need to identify new devices, phenomena, processes, which reflect the development of scientific and technological progress. They save resources of thinking, in other words, they perform energy-saving function, based on the transformation of general vocabulary in order not to overload the human brain with the completely new lexical items.

The creation of electronic computers, or computers, in the 40's of 20th century was crucial for the development of cybernetics (J. von Neumann and others). Due to computers, fundamentally new opportunities have appeared for the research and the creation of complex systems for the control of various processes in many areas of science and technology.

The name was coined by Norbert Wiener in 1948 as a result of collaborations between Wiener, a mathematician, and colleagues from other disciplines: they

noticed that they had similar interests, but there was no name to group together their interests. They chose cybernetics, subtitle control and communication in the animal and the machine, thus reflecting that both technological and biological systems have many common characteristics. Norbert Wiener, a mathematician, engineer and social philosopher, coined the word "cybernetics" from the Greek word (kybern3t3s) meaning "steersman" or "mentor", which occurs even in Plato's works to describe art of ship control [3, 3].

Cybernetic (information) modeling of functional mechanisms is the basis for brain activity (reflection mechanism) and refers to the processes of higher nervous activity, intersecting with cognitive linguistics, which explores the emergence of speech patterns, including ways of obtaining, processing, storage and usage of information, that people receive via various channels, as well as the general principles that govern (operate) process of thinking, provide knowledge transfer, creating a conceptual picture of the world [4; 5; 6; 7; 8; 9].

General meaning of cybernetics in cognitive science can be defined in the following aspects:

- *philosophical* – cybernetics gives us a new view of the world, it is based on the role of connection, information management, organization, interconnection and probability, and cognitive linguistics is associated with the linguistic world image;

- *social* – cybernetics gives a new idea about the organization of society in general, and the function of cognitive linguistics is based on the anthropocentric system approach;

- *general scientific* aspect is reflected within three tendencies: firstly, cybernetics offers general scientific notions for cognitive science, namely in cognitive linguistics, because the management and complex dynamic systems are common processes; secondly, cybernetics gives science new methods of research of probability, stochasticity, computer simulations, etc. Thus, it resonates with cognitive linguistics, through the processes of storing and processing of information; and thirdly, on the basis of functional approach "signal-response" cybernetics forms hypothesis of inner content and building of systems that can be

tested in the course of a detailed study, comparing person with a complex system that works like a computer (receiving, storing, processing the information and producing a final result). Therefore, practically every postulate pertaining to cognitive linguistics can be applied to cybernetics either. It is well known that cognitive science absorbs different sciences to explain how the human mind works and cybernetics represents a quest to provide coherent and non-vitalistic explanations for those persistently orderly phenomena (e.g., regularized behavior and cognition);

– *methodological* – the study of the cognitive system of thinking, its functioning is used to hypothesizing about the mechanisms of common mental processes in cognitive science, that is, verbalization of the world picture, conceptualization, etc.);

– *technical* – field of cybernetics (the creation of the principles of computers, robots, PC that developed a tendency of cybernetization and informatization not only of scientific knowledge, but also of all spheres of life.

Thus, the analysis of the theoretical material helps us to draw the following **conclusions:**

- 1) cybernetics can serve as a powerful source of neologisms, namely cyberneologisms;
- 2) cybernetics as a science has its philosophical, social, methodological, scientific and technical meaning in all spheres of life;
- 3) interrelation of cybernetics and cognitive linguistics is quite natural, because cognitive science accumulates knowledge of various fields of studies, including cybernetics.

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