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LINGUOSYNERGETIC PERSPECTIVE ON METAPHORS IN MASS MEDIA ECO-ECONOMICAL DISCOURSE

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Abstract. *The article presents a linguosynergetic perspective on metaphors in ecological-economical discourse. This study highlights the relevance of applying multidisciplinary approaches to understand the synergistic nature of metaphorical language creation, as it makes it possible for us to understand the way language evolves and adapts, develop a holistic vision of intricate processes within the language system that is considered a hierarchical self-organizing system. The research contributes to understanding eco-economical discourse as an entity that functions as a microstructure within the global discourse system and acts as a macrostructure for units within it. The study elucidates the relationship between three aspects (ecological, economic and social) within eco-economical discourse. The study also delves into the intricacies of the metaphorical language creation process through the prism of the principle of triplicity that makes it possible to analyze the "substance," "information," and "energy" components of metaphors within eco-economical discourse. The findings of the research paper show that metaphors are verbalized means of influence due to the "energy" component, wherein metaphorical models of various lexico-semantic orientations (anthropomorphic, socio-morphic, nature-morphic and artifact-morphic) are used in eco-economical discourse to bring environmental problems to the foreground, grab the attention of the target audience and raise awareness. Overall, the research paper offers linguosynergetic perspective on the process of creating metaphors and eco-economical discourse as well.*

Keywords: *eco-economical discourse, linguosynergetics, metaphors, principle of triplicity.*

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ЛІНГВОСИНЕРГЕТИЧНИЙ ПОГЛЯД НА МЕТАФОРИ В МАС-МЕДІЙНОМУ ЕКО-ЕКОНОМІЧНОМУ ДИСКУРСІ

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Анотація. *У статті представлено лінгвосинергетичний погляд на метафори в еколого-економічному дискурсі. Це дослідження підкреслює актуальність застосування міждисциплінарних підходів для розуміння синергетичної природи метафоричного мовотворення, оскільки надає змогу осмислити, як розвивається та адаптується мова, сформувати цілісне бачення динамічних складних процесів у мовній системі, яка розглядається як ієрархічна система, що здатна до самоорганізації. Дослідження доповнює бачення еколого-економічного дискурсу як одиниці, що функціонує як мікроструктура в глобальній дискурсивній системі та є макроструктурою відносно інших одиниць, що входять до її складу. У дослідженні розглянуто взаємозв'язок між трьома аспектами (екологічним, економічним і соціальним) в еколого-економічному дискурсі. Крім того, дослідження дозволяє детальніше проаналізувати специфіку процесу творення метафор крізь призму принципу триєдності, що уможливлює аналіз таких компонентів метафор, як «речовина», «інформація» та «енергія» в еко-економічному дискурсі. Результати дослідження свідчать, що метафори є вербалізованим засобом впливу завдяки компоненту «енергія», причому метафоричні моделі різної лексико-семантичної спрямованості (антропоморфної, соціоморфної, природоморфної та артефактної) використовуються в еко-економічному дискурсі з метою актуалізації екологічних проблем, привернення уваги та підвищення рівня обізнаності цільової аудиторії. Загалом, дослідження пропонує лінгвосинергетичний погляд на процес творення метафор та еко-економічного дискурсу в цілому.*

Ключові слова: *еко-економічний дискурс, лінгвосинергетика, метафори, принцип триєдності.*

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Introduction

Global natural disasters, armed conflicts and wars, climate change, and irrational use of Earth's resources are the most covered topics in the media and the subject of research by scholars in various fields due to the global aim of integrating an eco-friendly approach to various areas of human activities and industries. Widely disseminating information on ecological and economic issues prompted linguists to pay attention to the way mass media inform the public about the implications of human activity for the environment, the tactic media outlets use to foster a sense of responsibility and raise awareness, promote eco-friendly campaigns, encourage individuals to take specific actions for environment in their daily life. The role of mass media is crucial because it is not only a tool to report on environmental issues but also to shape the public's opinion about implementing governmental policies and foster a collective effort towards a more eco-friendly and sustainable future.

The relevance of the study is predetermined by the focus of linguistic studies on developing an integrative perspective on language, discourse, and the metaphor creation process within a linguosynergetic framework. The subject of the study is the synergistic nature of metaphors in mass media eco-economical discourse, which is the object of study. The research material is based on English-written articles on environmental and economic issues published in news publications such as *Economist Impact, The New York Times, The Telegraph, BBC Future, and Earth.Org*, wherein 183 metaphors were selected for quantitative analysis, the most vivid of which are presented in the research paper.

Language is a synergistic structure, constantly evolving and adapting to the needs of society. Continuous adaptation processes allow the language to survive and continue to fulfill its functions. Language is a hierarchical structure that includes both macrostructures

and microstructures, such as a text consisting of sentences, a sentence composed of words, and words, respectively, of morphemes, etc. The study of the synergistic nature of language involves an interdisciplinary approach that allows us to go beyond one system and form a holistic understanding of complex processes within language to develop comprehensive explanations. Integrating ideas, results, and methods from other sciences into linguistic studies deepens our understanding of the language as an open, dynamic, constantly evolving entity.

Research materials and methods

The research paper reflects the perspective based on theoretical and methodological frameworks introduced by the following scholars that investigated the basis and functioning of green economy discourse (Ghahroud & Kalkhoran, 2020), the synergistic nature of metaphor (Guliyev, 2021), significantly contributed to the comprehension of linguosynergetics as a new paradigm in linguistic studies (Pikhtovnikova et al., 2018). M. L. Ghahroud and S. A. Kalkhoran (2020) contributed significantly to understanding the basis of green economics. The green economy discourse is stated to be part of environmental discourse aimed at meeting global issues, including the concept of sustainability. Scholars distinguished three pillars of sustainability: environmental, economic and social one. Considerable investigation within the object of the study was performed by N. Hudz (2013), who unfolded the position and role of ecological discourse within the discourse system and defined ecological discourse as a specific type of discourse aimed at reflecting an interaction between humankind and the environment, informing the public about the current state of the environment and influencing public consciousness. The dynamic force and innovative nature of metaphor, its systemic properties, the mechanism of its creation and the role of associative-figurative thinking of individuals, and the way literal meaning is transformed into a metaphorical one are explored in the research paper authored by F. A. O. Guliyev (2021), M. Raymer & E. Camp (2008), etc. According to K. Gödel's incompleteness theorems, the consistency or inconsistency of a formal system cannot be proved with the rules and language of the same system (Raatikainen, 2022). This statement makes sense when applying the synergetic approach to linguistic research. Applying K. Gödel's incompleteness theorems to the study of the synergistic nature of metaphors, integrating ideas from other sciences helps to deepen our understanding of internal processes within language, discourse, helps us explain such phenomena as interdiscursivity, the bifurcation point in the metaphor creation process that transforms the literal meaning into metaphorical one.

The metaphor creation process is analyzed through the prism of the metaphysical triplicity principle that is considered the fundamental mode for being of any matter (Pikhtovnikova et al., 2018). A thorough investigation into multifaceted aspects of metaphorical language within media eco-economical discourse required the application of linguistic methods, in particular:

—methods of analysis and synthesis (to systematize the findings from the analysis of academic literature related to the subject of the research);

—sampling method (to compile the necessary empirical material);

—descriptive method (to interpret the units of study);

—linguistic analysis, in particular discourse, lexical-semantic and pragmastylistic analyses (used to study the pragmalingual potential of metaphors in media eco-economical discourse due to the "energy" component distinguished through the prism of the triplicity principle);

—classification (for structuring metaphorical models in mass media eco-economical discourse);

—the method of interpretive textual analysis (to find out stylistic and pragmatic features as means of influence in the English-written articles on environmental and economic topics published in online news publications),

—quantitative analysis to determine the frequency of lexico-semantic types of metaphors in eco-economical discourse, as well as

—the method of generalization aimed at generalizing the results obtained.

To sum up, a comprehensive study employing linguistic methods and interpreting results using the essence of K. Gödel's incompleteness theorems and the triplicity principle enrich our understanding from a linguosynergetic perspective on metaphors in mass media eco-economical discourse.

Discussion and results

Scholars A. R. Habidullina and O. L. Kolesnichenko (2019) define discourse as the unity of two entities: communication and text. Discourse manifests two modes of being: communication is considered the dynamic process of social interaction, and the text is a product, fixed in a written form. Therefore, we understand discourse as an "imprint" of reality, the rolled-up model of social interaction in a context. Rolled-up is used in the definition to show the dynamism of the continuously developing model. Viewing discourse as a product in a written form from a synergistic standpoint allows us to suppose the discourse is only the visualized and miniaturized form of context expressed through language. In this case, language is a means of putting thoughts into words. Discourse and how it functions within the language system may be compared to the structural integrity of a molecule. In the same way, a molecule consists of atoms, and an atom consists of protons, electrons, neutrons, etc., discourse is a macrostructure – an entity in relation to the smaller constituent entities functioning therein. Thus, any discourse microstructure that undergoes qualitative and quantitative changes throughout an evolving context also affects the discourse on its own. Moreover, each concrete discourse functions as a fractal system because it functions within the whole system of discourses. A particular discourse can interact with other discourses and influence the system of discourses and the language system as a whole. The development of discourse as a system depends on its ability to be adaptive to the influence of external factors, to modify the internal structure, and to build links between the system's components. N. Ababina (2021) points out that such attributes stem from the intricate nature of a discourse system and principles for sustaining its viability and smooth functioning.

The discourse becomes a holistically coordinated system due to the integrity of micro and macrostructures. The scientist suggests that a non-linear society requires individuals to choose new development strategies, implying creativity (Ababina, 2021). So, the synergy of discourses as a creative process can be explained as the result of individuals being self-organized in a non-linear society that implies new development strategies, an innovative approach to solving issues, and a drastic mindset shift. The search for solutions to the challenges faced by the individual in a non-linear society today, especially in times of transformation, is possible through the integration of forms, methods, genres, and interdisciplinarity in the research and media dissemination of socially important events. As a result, we observe the synergy of discourses, a mix of genres, hybrid language practices, conceptual blending, metaphors, etc., which help to explicate socio-pragmatic function of the discourse texts through linguo-synergetic means, regarding synergetics is "the science of discovering new qualities" (Ababina, 2021, p. 63) and "the science of interaction" (Guliev, 2021, p. 4). R. Cox (2010) highlighted the pragmatic and constitutive functions of environmental communication. Pragmatic function indicates that environmental communication is action-focused by its nature due to the ability of language to educate and persuade. The constitutive function is realized due to the choice of linguistic means to shape the addressee's perception of environmental problems. Metaphors are effective in attention-grabbing due to the vivid images they create.

Let us turn our attention to the second part of the research, which involves the investigation of the synergistic nature of the metaphor creation process in eco-economical discourse. A notable point made by F. A. O. Guliev (2021) is that metaphor is regarded as a nonlinear dynamic system category that serves a system-forming, heuristic, and generalizing

function according to the principles of synergetic science. N. Ababina (2021) emphasizes that being adaptive is crucial in synergistic processes contributing to a coordinated move toward the goal (attractor). Meanwhile, processes that cannot be controlled, i.e., chaos, should be perceived as a factor that promotes progress since chaos and order are mutually correlated phenomena. The bifurcation point in the process of creating metaphorical expressions, the pivotal point, which plays a crucial role in literal meaning being transformed into figurative one, is abstract, associative thinking. It is the abstract and creative thinking of the human brain that stimulates the creation of an image, stimulates the word combination to change a vector of its development from literal to figurative meaning, and even to constructs places that do not exist in reality and can be embraced only by abstract thinking of a recipient of information where such an image is mentioned. F. A. O. Guliev (2021), in his research paper, considers associative-figurative thinking consisting of two components: intuitive and rational-logical. He highlights that it is the associative component in this unity plays a role of a trigger to start the development of a "sensory-semantic environment," which makes it possible to bring together multi-dimensional connections between various concepts and notions. A rational-logical component, in turn, makes it possible to pick up certain traits and indicators belonging to concepts and decide whether they are suitable for an image an author would like to create. Grammatical rules order metaphorical language. The grammar makes metaphors take a particular form and self-organize to acquire a particular meaning. For example, explicit metaphors are formed from the point of view of grammar due to the verb *"to be"*; implicit metaphors have a freer form and involve a comparison with an object, which can be identified from the context, if the metaphor indicates only a certain feature, a quality peculiar to the object of comparison.

The principle of triplicity is considered the fundamental mode for being of any matter, as stated by S. Yenikieieva (2018). Applying the principle of triplicity to metaphors, we observe the following: the "substance" component is expressed by the figure of speech in phonic (sound) or graphic (written) form, the "information" component is expressed by the literal meaning of the metaphor's constituents, and the "energy" component is expressed by a figurative meaning charged with connotations, emotions it bears.

Taking into account the principle of triplicity, we analyze anthropomorphic, sociomorphic, nature-morphic and artifact-morphic lexico-semantic models of metaphors in eco-economical discourse.

Anthropomorphic lexico-semantic models of metaphors in media eco-economical discourse are characterized by the explicit or implicit comparison of environmental and/or economic entities or phenomenon to human being. Let's consider an example of an anthropomorphic metaphor in a *BBC* news article titled *"The scarred landscapes created by humanity's material thirst"* (Hirschfeld, J. & Fisher, R., 2022). The example draws an analogy between a natural landscape and a human being. In this case, the Earth's land is compared to a skin that is covered with scars due to the insatiability of people and excessive consumption of the Earth's resources, which results in scars. Anthropomorphism has an educational function in the eco-economical discourse; the authors use this device to show the consequences of human activity and encourage society to act and work toward a sustainable future. The following examples also represent the way anthropomorphic metaphors are being used in the eco-economical discourse in opinion articles from *Earth.Org* and *The New York Times*: *"An Economic Model for Planetary Health and Prosperity"* (Ramprasad, 2024); *"But we've so weakened our forest — through decades of business-as-usual industrial logging and fossil-fuelled climate shifts — that it has switched to hemorrhaging CO_2 instead of absorbing it."* (Wallace-wells, 2023).

Assigning anthropomorphic features to Earth is a verbal representation of the Gaia theory developed by James Lovelock. According to Arran Stibbe (2021), while nature and the planet Earth are being verbalized as human beings, anthropomorphic metaphors do not indicate an anthropocentric view – on the contrary, nature holds a focal point. It is worth noting that the previous examples depict nature being assumed as a victim while humankind is being imbued with dominant or even aggressive features in the dichotomy between human

beings and nature. The verb hemorrhaging is a marker of an anthropomorphic metaphor in this context. This metaphor reflects the impact of human activity on the natural environment. From a pragmatic standpoint, the metaphor is full of negative connotations, and the "energy" component, following the principle of triplicity, depicts the image of bleeding and the suffering of the anthropomorphized forest, as well as appeals to the recipient of the information to express empathy and sympathy, and to become aware of the consequences of human actions on the environment. In the following example, the anthropomorphic metaphor is an example of exaggeratedly condemned insatiability and consumerist human-driven patterns of treating the planet's resources. *"But if the developing world's surging appetite for electricity can be met with distributed, renewable power plants — such as small-scale solar arrays and modest wind farms — the world might be spared that additional warming"* (Gelles, 2024). Another example in the *Economist Impact* article that pragmatically appeals to humankind to realize its actions through a fear-mongering metaphor is when the world's oceans become victims of aggressive human behavior. However, in this example, an action doer is not explicitly specified: only the consequence caused by pollution, which is the result of human activity, is indicated. *"The world's oceans are slowly being strangled by plastic pollution, largely due to refuse flowing from large rivers like the Mekong."* (Kittikhoun, 2022).

Artifact-morphic lexico-semantic models of metaphors imply an explicit or implicit comparison of environmental and/or economic entities or phenomena to objects created by a human being as a result of one's physical, mental, and creative activity. Let us analyze the interaction of the three aspects in the example represented by the headline *"How to boost collaboration to curb plastic pollution in emerging markets"* (2021). The economic aspect is represented by the term *emerging markets*, the ecological one is represented by *plastic pollution*, and the social component is represented by the noun *collaboration*. Simultaneously, the noun *collaboration* appears to be a binding unit, a cohesive component at the syntactic level. Moreover, the metaphorical nature of the headline is noticeable, which is expressed by the artifact-morphic metaphor. The significative descriptor of the artifact-morphic metaphor is the verb *to curb*, derived from the noun curb, meaning *"to check or control with or as if with a curb,"* according to Merriam-Webster (n.d.). While reading the headline, the recipients evoke an animalistic image of a horse, derived from an implicit comparison of plastic pollution with a horse that should be brought under control; its race should be slowed down with the help of an artifact – a curb. This metaphorical reinterpretation results in a more simplistic image of the solution to the problem of plastic pollution. It is reasonable to assume that a straightforward interpretation of an urgent environmental problem makes it possible to distinguish the function of metaphor in simplifying a complex phenomenon within environmental, social, and economic aspects. However, using a metaphorical expression in this context may oversimplify the process of plastic pollution and thereby underestimate the consequences of pollution. However, the noun collaboration emphasizes that the pollution problem can only be solved by joint efforts, the efforts of the entire society.

A similar image, based on the comparison between using natural resources and taming an animal, is found in the headline of the article published in *Economist Impact: "Harnessing wave energy along with offshore wind"* (Hodges, 2023). The same image is observed in the following example: *"However, more blue-carbon projects—projects that harness the Earth's oceanic and coastal ecosystems—are needed to meet this growing demand, according to researchers, investors and NGOs at The Economist Group's 8th Annual World Ocean Summit Virtual Week."* (How to Scale up Blue-carbon Projects, 2021). The lexico-semantic markers of artifact metaphors are lexemes indicating technologically created machines, mechanical tools, engineered systems, etc. as in the forthcoming examples from *The Telegraph* article: *"My mortgage is about to skyrocket – can I afford to go green?"* (Haynes, 2023); or in the excerpt from the *Earth.Org* piece: *"This mix of financing can kickstart climate projects in developing nations that would otherwise be deemed too risky for private investors, especially early on."* (Bray, 2024). The "energy" component of such

metaphors (in the examples mentioned above from the articles of eco-economical discourse) urges people to be proactive and take quick measures to address urgent environmental problems since humankind relies on hand-made tools to facilitate their work and increase work efficiency.

The call for stronger business sector involvement into solution of environmental problems is highlighted in the following headlines (*"How Global Power Dynamics and Climate Finance Are Shaping the Race to Decarbonize Economies Worldwide"* (Khodadadi, 2024); *"Calling on the Waste Management Sector to Champion Zero Waste Initiatives"* (Zabey, 2024)), expressed by sport metaphors (markers are verbs *race* and *champion*), which can be classified as sociomorphic by its lexical and semantic type. A sociomorphic lexico-semantic model of metaphors reflects human social and professional activity, wherein environmental and/or economic entities or phenomena are compared to human behavior in society, relationships, beliefs, etc. An example of a sociomorphic metaphor is presented in *The New York Times* article titled *"Carbon Markets Are in Limbo"* (Andreoni & Bearak, 2023). This metaphor is an example of a sociomorphic metaphor based on people's religious beliefs. The metaphor conveys the uncertainty of what will happen to carbon markets by implicitly pointing to their location. Limbo, according to Catholic doctrine, is the bordering place inhabited by souls that cannot go to either heaven or hell after death.

A similar uncertainty of the future is represented in the following excerpt from *The New York Times*: *"The reality is that without much more finance flowing to developing countries, a renewables revolution will remain a mirage in the desert…"* (Friedman & Sengupta, 2023), wherein the renewable revolution is explicitly compared to a mirage, natural phenomenon, but it is nature-morphic by its lexico-semantic type. The metaphor expresses a pessimistic vision of the eco-economic issue. The possibility of a revolution to switch to renewable energy is explicitly compared to a natural optical phenomenon of seeing an illusory water source in the desert. Thus, the connotation of this metaphor is the distant illusory prospects for the idea of renewable energy being realized. The research findings elucidate metaphors as verbalized means of influence in eco-economical discourse. According to the frequency of usage in texts on environmental and economic issues, artifact-morphic metaphors are of the highest frequency (41%). The second place and third places are occupied by sociomorphic (35%) and anthropomorphic metaphors (16%), while nature-morphic metaphors, on the other hand, have the lowest frequency (8%).

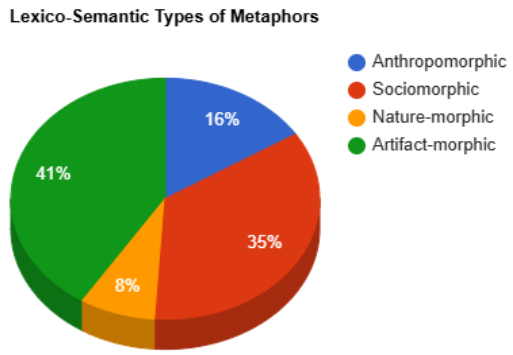

Figure 1. The frequency of lexicosemantic types of metaphors in eco-economical discourse

Analysis of the “information” and “energy” components of metaphors according to the triplicity principle enriches our understanding that metaphors are verbalized means of influence, wherein metaphorical models of various lexico-semantic orientations (anthropomorphic, sociomorphic, nature-morphic, artifact-morphic) are used in eco-economical discourse to bring environmental problems to the foreground, grab the attention of an audience and raise awareness.

Conclusions

The synergetic approach to studying eco-economical discourse and metaphorical language makes it possible to understand its dynamics and vector of language development as a synergistic structure. Applying K. Gödel’s incompleteness theorems to the study of the synergistic nature of metaphors, integrating ideas from other sciences helps to deepen our understanding of internal processes within language, discourse, helps us explain such phenomena as interdiscursivity, the bifurcation point in the metaphor creation process that transforms the literal meaning into metaphorical one. Overall, metaphors are verbalized means of influence due to the “energy” component according to the metaphysical triplicity principle, wherein metaphorical models of various lexicosemantic orientations (anthropomorphic, sociomorphic, nature-morphic, artifact-morphic) are used in eco-economical discourse to bring environmental problems to the foreground, grab the attention of an audience, and raise awareness. Anthropomorphic metaphors appeal to the recipient of the information to express empathy and sympathy and to become aware of the consequences of human actions on the environment. On the other hand, the “energy” component of artifact-morphic metaphors urges people to be proactive and take quick measures to address urgent environmental problems since humankind relies on hand-made tools to facilitate their work and increase work efficiency. By studying how language influences public perceptions and understanding, linguists, journalists, and experts in the field of ecological economics can highlight the urgency of environmental challenges and promote more sustainable practices being implemented. By identifying and uncovering linguistic means by which mass media potentially retain unsustainable human behavior, experts have the opportunity to encourage people to adopt more environmentally friendly attitudes and actions via language.

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