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EMERGENCE OF CONCEPTUAL METAPHORS IN ECOLOGICAL FILMIC DISCOURSE

У статті подано аналіз мультимодальних реалізацій концептуальних метафор, референт яких належить до домену ЕКОЛОГІЯ, та які утворюються в екологічному кінодискурсі, зокрема англомовних документальних фільмах екологічної проблематики. Дослідження базується на сучасному варіанті теорії концептуальної метафори, яка включає мультимодальний та емергентний підходи. У статті концептуальна метафора трактується як емергентний феномен, а саме пояснюється посиланням не лише на лінгвістичні засоби, а й на екстралінгвістичні, при цьому особлива увага приділяється взаємодії цих засобів. У кінодискурсі знаки різних семіотичних систем або модусів беруть участь у процесі виникнення екологічних метафор: розмовна мова (вербальний модус), письмова мова (візуальний модус), динамічні образи (візуальний модус) і музика та звуки (аудіальний модус). Мультимодальні концептуальні метафори, тобто такі, у яких референт та корелят виражені у різних модусах, мають сильний емоційний вплив на глядача. Дослідження екологічного кінодискурсу показує, що вербальний модус може яскраво ілюструвати концептуальну метафору, представлену вербально; звертатися до тілесного досвіду глядачів; або виділяти важливість певних рис концептуального перенесення. У статті продемонстровано, що відповідно до їх мотивації метафори екологічної проблематики, які виникають в екологічному кінодискурсі, можуть бути таких типів: кореляційні метафори, метафори, що базуються на подібності, та метафори, які виникають в результаті операції схематизації. За допомогою цих трьох типів метафор здійснюється концептуалізація складних екологічних концептів або реконцептуалізація тих концептів, які традиційно трактуються неправильно. Це стає можливим завдяки зверненню до схожості цих концептів із простішими, до тілесного досвіду, або схематизації ключової риси концепту в референт метафори.

Ключові слова: екологічний дискурс, емергентський підхід до метафори, концептуальна метафора, мультимодальна метафора, реалізація метафори, семіотичний режим (вербальний, візуальний, аудіальний).

В статье приведен анализ мультимодальных реализаций концептуальных метафор, референт которых принадлежит к домену ЭКОЛОГИЯ, образующихся в экологическом кинодискурсе, в частности англоязычных документальных фильмах экологической проблематики. Исследование базируется на современном варианте теории концептуальной метафоры, которая включает мультимодальный и эмергентный подходы. В статье концептуальная метафора трактуется как эмергентный феномен, а именно объясняется ссылкой не только на лингвистические средства, но и на экстралингвистические, при этом особое внимание уделяется взаимодействию этих средств. В кинодискурсе знаки различных семиотических систем или модусов участвуют в процессе возникновения экологических метафор: разговорный язык (вербальный модус), письменная речь (визуальный модус), динамические образы (визуальный модус) и музыка (аудиальный модус). Мультимодальные концептуальные метафоры, в которых референт и коррелят выражены в различных модусах, имеют сильное эмоциональное воздействие на зрителя. В статье показано, что в соответствии с их мотивацией экологические метафоры, возникающие в экологическом кинодискурсе, могут быть следующих типов: корреляционные метафоры, метафоры, основанные на сходстве, и метафоры, которые возникают в результате операции схематизации.

Ключевые слова: концептуальная метафора, мультимодальная метафора, реализация метафоры, семиотический режим (вербальный, визуальный, аудиальный), экологический дискурс, эмергентный подход к метафоре.

Introduction

This article presents an analysis of conceptual metaphors with the source concept ECOL-OGY, which are instantiated in English documentaries on ecological problems as a genre of ecological filmic discourse. The focus is on multimodal instantiations of the metaphors under study, presented in the verbal and visual / aural mode.

The aggravation of the ecological situation all over the world, which is a characteristic feature of our time, makes the problem of raising people's awareness of environmental issues more relevant than ever. Documentaries which address ecological problems are an effective tool of making people more ecologically sensitive, which is one of the reasons of choosing this particular genre of filmic discourse as a source of empirical data. Because of people's insufficient or faulty ecological knowledge, environmentally related concepts need to be explained in a way that is understandable to everyone and capable of impressing many. Documentaries that address environmental problems make abundant use of conceptual metaphors which facilitate understanding of many abstract concepts ecology operates with.

Theoretically, the article departs from conceptual metaphor theory [10; 11] and its modern-day extension – emergentist theory of metaphor [8; 14], supplementing them by bringing in the multimodal component [1] into consideration. The aim of this study is to explain conceptual metaphors emergence in ecological filmic discourse by reference to non-linguistic factors and their interaction. In order to achieve this end, the following objectives have been set forth: 1) to identify multimodal conceptual metaphors referring to ecological concepts in the documentaries under study; 2) to clarify the motivation behind the target and source domain pairing; 3) to bring out the patterns of interaction of different semiotic modes, namely, the verbal and visual ones, and to understand their role in the process of metaphor emergence.

The study demonstrates that conceptual metaphors in ecological filmic discourse emerge mostly in the interaction of the verbal mode with the visual one. It also gives proof to the argument that a metaphor's motivation can be based on the similarity of the target and source domains, correlation with the bodily experience, or result from the construal operation of schematization. Due to specific features of documentary films striving to throw light on different environmental phenomena and fostering the understanding of the real ecological situation in the world, conceptual metaphors are used to conceptualize and reconceptualize complex ecological phenomena. Different kinds of metaphor motivation are involved into the process.

Structurally, the article consists of five parts: (1) introduction, (2) theoretical background, (3) results, (4) discussion and (5) conclusion. The theoretical part introduces the key concepts of conceptual metaphor theory, multimodal metaphor theory and emergentist view of metaphor. It is followed by the presentation of results, and then comes the discussion. The conclusion summarizes the findings and outlines prospects for further research.

Theoretical background

Conceptual metaphor is defined as a partial understanding of one concept in terms of another [10, p. 1]. The concept identified by a metaphor is called the target concept / domain, or conceptual referent. The concept that is involved for comparison is the source concept / domain, or conceptual correlate. Common features that appear when comparing the referent and correlate form a cross-mapping area [9, p. 245]. This process entails certain inferences [11, p. 47], i.e. such conceptual features that are not directly mentioned in the metaphor but are logically deduced from it. Conceptual metaphor allows thinking and talking about abstract, complex, subjective, or poorly defined spheres of experience in terms of specific, simple, physical, or better defined spheres.

Since conceptual metaphor is, in the first place, an instrument of thinking, and not a rhetorical ornament, it is quite natural that the means of its expression cannot be limited to linguistic ones. Conceptual metaphors can also be instantiated in other, non-verbal, semiotic systems, or modes [1, p. 20]. The content of the term 'mode' is still open to discussion [1]. I suggest the following systematics of modes employed in ecological filmic discourse: the verbal mode (written vs. spoken), the visual mode (static vs. dynamic images), the aural mode (sound vs. music) [16, p. 116]. Metaphors, the referent and correlate of which are embodied in different modes, i.e. in different semiotic systems, are called multimodal [1, p. 24].

Another mental entity that often interacts with conceptual metaphor and predetermines the way we think and act is conceptual metonymy. It is defined as a mental assessing of one concept through another concept within a certain domain of experience [6, p. 10]. A well-chosen metonymic expression allows one to recall a concept that has a larger cognitive content or simpler linguistic expression, thereby causing a representation of another concept, less distinct or more complex [12, p. 30]. Metaphors and metonymies often interact with each other creating integrated complex systems – metaphtonymies [3, p. 323].

However, there is no specific device responsible for metaphor or metonymy production and comprehension in our mind or body; hence comes the idea that metaphors emerge in discourse [8, p. 147]. The postulates of the emergentist view of metaphor were first formulated by D. Sanford [14] and further developed by Z. Kövecses [8]. D. Sanford abandons the idea that linguistic metaphors are surface manifestations of deep structures – conceptual metaphors [14, p. 356]. From the emergentist perspective, individual metaphors are best understood as entities that arise out of language in use, rather than on the basis of underlying structures [14, p. 356–357].

The main question of the emergentist approach is how metaphors emerge, which factors influence their creation, on what basis we pair the source and target domains in order to create a conceptual metaphor [8]. In this article, I focus on the latter issue, i.e. regularities of the source and target pairing. The answer to this question within the framework of the 'classical' conceptual metaphor theory is that there is a certain similarity between two concepts. However, there are also other types of metaphor motivation, which include correlation and schematization [8, p. 360–361]. Below I consider each type of metaphors according to their motivation (similarity-based, correlation-based and schematization-based) and with regard to the role of verbal and visual semiotic modes in them by analyzing examples from the documentaries under consideration.

Results

In **correlation-based metaphors,** the choice of a particular source domain for a particular target domain is motivated by embodied experience, or bodily correlations in experience [10; 11; 7]. Such metaphors emerge from the neural structures of the brain as a result of our most basic experiences as human beings [4; 11]. An example of a correlation-based metaphor is INTENSITY is HEAT. Here we observe a correlation between the increase in the intensity of an activity or a state and the production of body heat [8, p. 152].

In ecological filmic discourse, correlation-based metaphors usually enter into different configurations with other metaphors or metonymies, thus producing metaphtonymies. For example, in the documentary "Six degrees could change the world" [15], the correlation-based metaphor INTENSITY is HEAT interweaves with the metonymy CLIMATE CHANGE is HEAT, creating a metaphtonymy. One of the manifestations of the climate change, global warming in particular, is rising ambient temperature. The documentary addresses this problem, describing its different manifestations and consequences. The target domain of the metaphor is represented verbally (*climate change, global warming*), while the source domain is represented by a combination of the verbal and visual modes. The verbal part is presented by the expressions *the temperature is rising; heatwave*. At first sight, it may seem that it is quite hard to visually illustrate rising temperature or heat. As a result, the creators of the documentary make an appeal to a human's embodied experience and represent heat with the orange color and blurred contours of objects (Fig. 1, 2). The blurred picture imitates the way people see things around them and feel themselves when suffering unbearable heat. At the same time, this illustration represents the source domain of the correlation-based metaphor INTENSITY is HEAT. There is also a verbal count on the background: *one degree, two degrees, three degrees*, etc., which instantiates the target concept INTENSITY. Thus, with the help of the metaphor INTENSITY is HEAT, the creators of the film render the idea that since the heat, one of the manifestations of the climate change, is very high, which viewers can experience in the blurred picture, then the intensity and urgency of the climate change problem are also pressing. This way, a usual metonymy CLIMATE CHANGE is HEAT is transformed into metaphtonymy, as the correlation-based metaphor INTENSITY is HEAT brings in a new domain and makes it function rather as a metaphor than a metonymy.

Fig. 1, 2 Visual instantiations of the domain HEAT

In a large number of cases, the combination of a source domain with a particular target domain is motivated by real or assumed similarity [see, e.g., 2; 4]. This kind of metaphors, **similarity-based metaphors**, is illustrated by a fragment taken from the documentary series 'The Broken', Episode 4: 'Recycling Sham' [13]. The episode addresses the problem of plastic pollution, which is conceptualized with the help of the metaphor PLASTIC POLLUTION is FLOODING. It is represented verbally in the following fragment: *The world is drawning in plastic. Plastic is in the streets, it's in the water, it's everywhere. … By 2050 there's gonna be more microplastics than fish in the oceans.* Visually, it is illustrated by the scenes of plastic dumping sites and a wild wave that seems to contain more plastic than water (Fig. 3). Plastic dumping sites are so massive and solid that they remind a waterbody. Flooding, or in other words, uncontrolled water, is dangerous; it can be destructive and deadly, and so can plastic pollution. Plastic is similar to water when it is out of control and there is too much of it: it can flood the world, and the world will drown in plastic.

Fig. 3 Visual instantiation of the metaphor PLASTIC POLLUTION is FLOODING

Finally, metaphors can emerge from the construal operation of **schematization**. In this case, the target domain is or seems to be an idealized version of a variety of source domains that relate to it. Specific cases, or source domains, share a common high-level feature, which is converted into a schematic category, a target domain. The process is metonymic in nature, but its end result functions as a metaphor [8, p. 153]. The above-mentioned episode 'Recycling Sham' [13] uses a schematization-based metaphor RECYCLING PLASTIC is SHAM to show that the idea of recycling plastic is a false solution of the problem. The narration goes like this: *And the solution we've always been taught will fix it is actually a false promise. We can't recycle our way out of plastic pollution. The plastic industry has really sold us a bill of goods.* The visual part illustrates the processes of collecting piles of plastic waste and sorting it. The idea is that plastic industry has created a false vision of plastic recycling as a way out of the problem, but it is not a solution, it is a sham. Here the source domain RECYCLING PLASTIC is schematized in the target domain SHAM, where the schematization accentuates the common feature of the domains – 'being untrue'. This schematization-based metaphor

contradicts the usual conceptualization of recycling plastic, and is used in order to reconceptualize the concept which is already sufficiently entrenched in viewers' minds.

Discussion

Conceptual metaphor is an important instrument of thinking, which helps people to conceptualize complex, abstract, or poorly defined concepts. Due to the complexity of the concepts belonging to the domain ECOLOGY and difficulties that arise in an attempt to depict these concepts in documentaries, creators of these films resort to metonymic depiction. As a result, multimodal conceptual metaphors interact with metonymies, creating complex units – metaphtonymies.

Although we understand new concepts through metaphors and metonymies better, it does not mean that we have a specific metaphor-producing device in our mind or body: metaphors emerge. Individual conceptual metaphors in ecological filmic discourse emerge over verbal (written or spoken), visual (static or dynamic images), or aural (sound or music) elements in use, which jointly or separately express the target and source domains. One of the main questions of the emergentist view of metaphor is how a source domain is paired with a target domain. The analysis of ecological filmic discourse showed that there are three types of metaphors by their motivation: correlation-based, similarity-based, and schematization-based.

Metaphtonymy, which consists of the metaphor INTENSITY is HEAT and the metonymy CLIMATE CHANGE is HEAT, illustrates the occurrence of correlation-based metaphors in the discourse under analysis. The correlation-based metaphor INTENSITY is HEAT is used to conceptualize the problem of global warming as serious and urgent through one of its manifestations – rising temperature (heat). The metaphor emerges from the interaction of the verbal and visual modes: verbal representation of the target domain INTENSITY (count: *one degree, two degrees, three degrees*, etc.) and visual representation of the source domain HEAT (the orange-tinted blurred picture). The same picture also represents the source domain HEAT of the metonymy CLIMATE CHANGE is HEAT, while the target domain CLIMATE CHANGE is represented verbally (*climate change, global warming*). The interaction of the correlation-based metaphor with the metonymy brings in the following inferences: climate change is an urgent problem. The urgency is expressed through an appeal to the bodily experience, which makes the idea easier to capture and at the same time, more emotionally charged.

The source and target domains of the metaphor PLASTIC POLLUTION is FLOODING are paired on the basis of their similarity, as viewed by the creators of the documentary who wanted to conceptualize the problem of plastic pollution as dangerous and uncontrolled. The verbal part of the metaphor (*The world is drowning in plastic*) is illustrated by visual images (a wave full of plastic and a dumping site), which enlivens the metaphor. The visual similarity of plastic pollution and flooding depicted on the screen entails further inferences: plastic pollution is as dangerous and uncontrolled as a flood.

The metaphor RECYCLING PLASTIC is SHAM is an example of a metaphor emerging from the schematization. This construal operation emphasizes a common feature of the two domains, 'being untrue', and the target domain SHAM seems to be an idealized version of different source domains possessing this feature, including RECYCLING PLASTIC. The metaphor emerges over the interaction of the verbal (expressing both the source and the target domains) and visual modes (illustrating the source domain RECYCLING PLASTIC). The schematization and new metaphor that emerged from it help to reconceptualize recycling plastic as a false solution of the plastic pollution problem.

Conclusion

Conceptual metaphor is an instrument of thinking, and thus, an effective conceptualizing tool. Due to this fact, it is widely used in ecological filmic discourse in order to form ecological concepts in viewers' minds. However, the concepts belonging to the domain ECOLOGY are quite complex and abstract and hard to describe or visualize in films, thus, the creators of documentary films resort to another conceptual instrument – metonymy.

The pairing of the target and source domains can be similarity-based, when there is or seems to be a certain similarity between the two concepts, correlation-based, when there is a correlation with some embodied experience, and it can emerge from the schematization operation, which schematizes one feature of the source domain into its absolute or idealized form in the target domain.

Conceptual metaphors in ecological filmic discourse are instantiated in different semiotic modes, verbal, visual and / or aural, and emerge over their interaction. The verbal mode usually presents the main information, while the visual mode illustrates it, enlivening the metaphor, appeals to the bodily experience, strengthening the emotional impact of the metaphor, or visualizes the similarity of the concepts, entailing other inferences that come out of this similarity. The interaction of the modes and their meaning makes multimodal conceptual metaphors an effective tool of capturing ecological concepts and, as a result, raising ecological awareness of people.

The prospects for further research lie in a deeper analysis of metonymy in the process of metaphor emergence.

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Key words: *correlation-based metaphors, emergence, multimodal conceptual metaphor, semiotic mode (verbal, visual), similarity-based metaphors, schematization-based metaphors.*

Nowadays, in the context of the global ecological crisis, the task of raising ecological awareness becomes more urgent than ever. One of the effective instruments of achieving this end is documentary films, which in their turn, make use of conceptual metaphors, which are one of the main instruments of thinking and conceptualization.

This article presents an analysis of conceptual metaphors in ecological filmic discourse, in particular English documentaries addressing ecological issues. In my research, I focus on multimodal instantiations of conceptual metaphors. Theoretically, the article departs from the conceptual metaphor theory and moves on to the emergentist metaphor theory. It also extends the latter by taking into account multimodal manifestations of the metaphors under analysis. I consider verbal (written and spoken) and visual (static and dynamic images) semiotic modes. Taking English documentaries on ecological problems as empirical data, I aim to reveal how conceptual metaphors emerge in ecological filmic discourse. According to the emergentist metaphor theory, an individual conceptual metaphor emerges over language in use. The results obtained here show that individual conceptual metaphors in the discourse under study emerge over the elements of several semiotic modes (verbal, visual), as well as their interaction. The visual mode can contribute to conceptualization by vividly illustrating the information presented verbally, by appealing to the embodied experience, or by emphasizing certain features. It was also proved that the pairings of the source and target domains can happen on the basis of the correlation with the embodied or bodily experience; a certain similarity between the source and the target domains; the construal operation of schematization. These three kinds of metaphor motivation help to conceptualize complex ecological concepts or reconceptualize wrongly-perceived ones by appealing to their similarity to easier or better defined concepts, addressing the embodied experience, or schematizing one key feature into the target domain.

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