EDUCATION AND ANTHROPOMORPHISM IN LANGUAGE THROUGH EMBODIMENT LENS

EDUCAÇÃO E ANTROPOMORFISMO EM LINGUAGEM ATRAVÉS DA LENTE DE EM-BODIMENT

EDUCACIÓN Y ANTROPOMORFISMO EN LENGUAJE A TRAVÉS DE LENTES EM-BODIMENT

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ABSTRACT: Cognitive linguistics sets a stress on the importance of considering the phenomenon of “embodiment” through the prism of studying the core role of the human body, the corresponding cognitive and linguistic anthropomorphic structures, and their influence on man’s sensemaking of the world. Within the framework of the article, it has been demonstrated using the material of the lexical structure of the polysemantic word arm that the structure and functioning of the human body predetermines the vital aspects of our thinking, verbalization and existence in general. Lexical invariant of this polysemantic word is defined as a cluster of dominant features that underlies the figurative metaphorical meanings of this word which can be considered as a part of our educational system. The description of functioning of the human body is projected onto abstract and concrete objects and environmental phenomena around us.

Keywords: Embodiment. Semantics. Metaphor. Semantic word structure. Educational system. Lexical invariant.

RESUMO: A linguística cognitiva enfatiza a importância de se considerar o fenômeno da "incorporação" através do prisma de estudar o papel central do corpo humano, as estruturas antropomórficas cognitivas e linguísticas correspondentes e sua influência na construção de sentido do mundo pelo homem. No âmbito do artigo, foi demonstrado, usando o material da estrutura lexical do braço polissemântico da palavra, que a estrutura e o funcionamento do corpo humano predeterminam os aspectos vitais do nosso pensamento, verbalização e existência em geral. O invariante lexical dessa palavra polissemântica é definido como um conjunto de características dominantes que fundamentam os significados metafóricos figurativos dessa palavra, que podem ser considerados como parte de nosso sistema educacional. A descrição do funcionamento do corpo humano é projetada em objetos abstratos e concretos e fenômenos ambientais ao nosso redor.


RESUMEN: La lingüística cognitiva hace hincapié en la importancia de considerar el fenómeno de la "encarnación" a través del prisma de estudiar el papel central del cuerpo humano, las estructuras antropomórficas cognitivas y lingüísticas correspondientes y su influencia en la percepción del mundo por parte del hombre. En el marco del artículo, se ha demostrado utilizando el material de la estructura léxica del brazo polisémántico de la palabra que la estructura y el funcionamiento del cuerpo humano predeterminan los aspectos vitales de nuestro pensamiento, verbalización y existencia en general. El invariante léxico de esta palabra polisémántica se define como un conjunto de rasgos dominantes que subyace a los significados metafóricos figurativos de esta palabra que puede considerarse como parte de nuestro sistema educativo. La descripción del funcionamiento del cuerpo humano se proyecta sobre objetos abstractos y concretos y fenómenos ambientales que nos rodean.

**Introduction**

Conceptual frameworks formed in our cognitive areas are connected with the nature of physical environment with which we interact, and with the nature of our biological morphology since what we profile and perceive often follows from our embodied experience. With that knowledge in mind, we are interested in how anthropocentrism formats the linguistic world image, being a kind of linguistic universal. Linguo-cognitive aspect within this article suggests defining the degree of anthropomorphic thinking of native speakers by analyzing the language units most commonly used in everyday life (BONNET ET AL., 2019).

The semantic space of the category “human body” is associated with anthropomorphic reflection of reality as a distinctive feature of one of the most significant segments of the conceptual and linguistic world image (KOSTINA, ZERKINA, PESINA 2015; PESINA ET AL. 2020). In general, such knowledge consists in accumulating environmental knowledge and ideas accepted in the linguistic community, registered in the structure of words designating both the human body and objects that make up the immediate surrounding of a person. Since a large proportion of the vocabulary of the category “human body” is polysemous words, we will focus primarily on numerous figurative meanings of polysemous words and their functioning as anthropomorphic units. That is, the search for the system-forming principle of figurative and emotional-perceptual anthropomorphic principle in the content organization of linguistic lexemes has led us to a semantic analysis of vocabulary (MOUSSAWI ET AL., 2020; BENLIAN ET AL., 2020).

This is of concern to cognitive linguistics, since the point of issue will be structuring, processing and storage of entire layers of information along with the corresponding cognitive mechanisms to provide access to one or another meaning in the process of using those (LICHTENBERG ET AL., 2021).

**Study of the Problem**

The presence of “human principle” in the world picture is its main characteristic, revealing the anthropocentric essence of the process of human cognition of the real world. The anthropocentric approach implies using language in close connection with the beingness of a person, when it is a person who becomes a center of the linguistic and conceptual world view and a measure of spiritual and material values. Considering themselves the center of reality, the individual perceives everything around as a reflection of their existence (OCCHI, 2017).
The term of “anthropocentrism”, dating from Ancient Greece, is an umbrella term in relation to the concept of “anthropomorphism” associated directly with the functioning of linguistic units that name the human body and its emotional and mental sphere. One of the subdivisions of anthropomorphism in linguistics is “anthropomorphic semantics” that also highlights the task of modeling the image of a person in language. From its end, anthropomorphic semantics intersect with one of the key concepts of cognitive linguistics – the concept of corporeality or “embodiment” (Evans 2006: 68). Thus, the terms “anthropocentricism”, “anthropomorphism” and “anthropomorphic semantics” are associated with the concept “embodiment” in language.

The notion of anthropomorphism is also umbrella, but already in relation to the allied phenomena of the secondary nomination – personification, animism, animatism, hylozoism. All these concepts intersect in contexts, designating close or identical phenomena. At the same time, the concept of anthropomorphism is much broader, since it assumes that various (almost any) properties of a person – physical, physiological, mental – are extrapolated to objects and phenomena of the real world, while in the case of animatism and animism, for example, we are only talking about animation (animatism) or ensoulment (animism) nature. In any case, we believe that these concepts are included as constituent parts in anthropomorphism.

Embodiment also has a phenomenological meaning associated with the acts of a person’s mental reflection on various areas of their bodily experience. In this sense, R. Descartes’s standpoint against the idea of knowledge embodiment is logical, therefore “embodiment” is also used as an abbreviated term for the Cartesian philosophical relationship between mind and body (Descartes 1999; Ghiglino et al., 2021).

Finally, the term “embodiment of cognition” is currently in a widespread use in robotics. The embodiment of schematic images is often associated with projects of humanoid robots, in particular, with those cases when the work performed by robots depends on the specific morphological characteristics of the robot’s body (morphology is used here in a biological, not linguistic sense).

These ideas have led to some confusion as to what “embodiment” means in cognitive linguistics. So, some scholars argue that this term is associated with the linguacultural theory of embodiment, research in the field of schematic mental processes, while other scientific schools insist on attempts to link embodiment with the study of physiological and nervous sensations of a person (LUNBERRY & LIEBENAU, 2021).
So, in the initial interpretation of the hypothesis of J. Lakoff and M. Johnson regarding structural metaphors, the authors argue that we, according to certain algorithms, project figurative and schematic models of knowledge from a more embodied source domain onto a less understandable target domain with the purpose of better understanding. Each mapping between source elements and target elements is one-way: the scheme of mapping is projected from source to target, and not from target to source. They wrote that “advocates of the disembodied mind will, of course, say that conceptual structure must have a neural realization in the brain, which just happens to reside in a body. But they deny that anything about the body is essential for characterizing what concepts are” (LAKOFF, JOHNSON 1999: 46). And further, “the very properties of concepts are created as a result of the way the brain and body are structured and the way they function in interpersonal relations and in the physical world” (LAKOFF, JOHNSON 1999: 37).

We absolutely agree that the physical embodiment of a person is of the essence for the study of their conceptual structures. Research in cognitive science confirms the interdependence of conceptual and perceptual processes, on the one hand, and physiological and neurophysiological ones, on the other hand. At the neurophysiological level, the most important argument in favor of the hypothesis of embodiment is the fact that the same neural mechanisms responsible for lower-level activity, such as perception and movement, are considered to be essential for the development of higher-level cognitive abilities, namely, causation of our actions, inferences and conceptualization in general.

From the perspective of cognitive linguistics, theories of anthropomorphism and embodiment can contribute to more successful decoding of so-called “embodied metaphors”, which are perceived intuitively, are used without much effort and are automatic. They are part of synesthetic, orientational, structural and ontological metaphorical models. Their logical abstract essence is understood as part of the physical world, reflecting objects of varying importance.

**Literature Review**

In today's world, the manifestation of modern anthropomorphism must be sought in modern painting and modern literature. In the United States, American dream companies such as Walt Disney often use animal behavior to explain human behavior, and for example, build a global brand of a mouse or cat with the support of powerful media and advertising. In Europe, and especially in Italy, the roots of anthropomorphism in the art of sculpture can be traced to a great extent (LUNBERRY & LIEBENAU, 2021).
The roots of the concept have a rich history and give long Neolithic signs. Several definitions have been proposed for anthropomorphs; From Guthrie Anthropomorphic point of view, the induction of human characteristics such as body shape, gaze, emotion, tone and accent, potential abilities, and individual personality to anything inhumane such as animals, plants, or other inanimate objects and even natural phenomena such as wind, storm, and rain (BEN-LIAN ET AL., 2020).

Literary and artistic scholars have also made optimal use of the concept of characterization of their theories in the subject of anthropomorphism. Anthropomorphism findings are mental experiences, emotions, sets of emotions, and human motivations and thoughts that are induced to animals and objects or even natural factors (cloud, sun, wind and so forth). The act of anthropology is in fact, the product of human mental imagination and its induction into everything.

Anthropomorphism is actually part of the bias. This has several advantages; Including the fact that it is not constrained by time and develops automatically in different periods of time. It should be noted that today the issue of archetypes has a fundamental application in this regard and in the coherent and principled selection of personality traits to the brand.

Anthropomorphism in branding can be manifested in one of the constituent elements of brand structure, which includes brand, logo, badges, advertising, organizational slogan, product, service, brand owner, users, employees, vision, story, personality, and relationships (Tippett, 2020).

From time immemorial, Dorian chose a symbol from images of objects, humans, and animals and engraved their images on dishes, coins, and flags. Each of those roles has had specific meanings for the tribe and group. Muscat refers to a human, animal, or artificial personality that has a lucky feature (Ghiglino et al., 2021).

In a general conclusion, we can say that the achievement of human virtues and traits is one of the archetypes that has been considered and cared for by humans since 900 BC, and also the rejection and identification of repressed traits has always been discussed by human societies. On the other hand, the use of metaphor, irony, brevity, and simile has been perhaps the best ways to express these features in the literature and art of different societies.

In today's industrial society, where brands are a sign of trust and confidence, and power, the use of anthropomorphism technique with a desirable identity in the structure of the mascara to create a different and confident personality is a feature of successful advertising that has no limits. Designers and brand experts with a deeper view of the past and using basic concepts
such as anthropomorphism provide the necessary grounds for competition in the global market (SILVERMAN, 2020).

Methods
It is proposed to underscore the anthropomorphic picture of the world as a fragment of an integral linguistic world image, which can be described and represented via metaphors, metonymies and phraseological units as the main types of tropes. Having found oneself in the linguocultural environment of a particular language within the corresponding linguistic content, assimilating the corresponding realities, the individual finds himself/herself in a synergistically developing cultural and linguistic space.

Within the scope of this paper, using specific semantic structures of words, we will demonstrate the fact that vital aspects of our existence and interaction with the environment are projected onto our body (on its structure and functioning). The description and functioning of the human body are also reflected in abstract concepts, which are often difficult to thoroughly understand.

The proposed approach is a synthesis of a systematic approach to the study of nominative processes and the corresponding semiosis in the field of meanings and the identification of nationally distinctive features of the anthropomorphic picture of the world of native speakers.

Results and Discussion
Our task is to find and reconstruct an integral, albeit somewhat common and naive, view of the world inherent in language. This is a kind of collective philosophy, which is imposed, being obligatory for all native speakers. At the same time, the emphasis is put on the anthropomorphic linguistic world image.

This requires an analysis of lexical units with anthropomorphic reinterpretations. The search for a system-forming naive figurative anthropomorphic beginning in the content language organization also served as a stimulus for an invariant semantic analysis of vocabulary. To interpret the meaning of the word that we consider as the realization of a lexical invariant, concentrated in a cluster of dominant most stable features of the word, a systematic principle is needed.

By means of invariant-component analysis, we are to determine the semantic cluster that includes the configuration of necessary semantic components, formed in the mind of the native speaker, based on the requirements of the surrounding context. At the same time, the context
only signals the necessary configuration of features (integral, differential or identifying, functional, etc.), but in no case appears as a self-sufficient entity that lives its own life and is capable of changing text or discourse content without a reflective or communicating consciousness. This proposition is very important for subsequent analysis, for it is this interpretation of the meaning that the emphasis will be put on.

So, the metaphor \textit{arm} – “a narrow strip of water or land projecting from a larger body” is based on the comparison of a narrow strip of water/land with a human hand, which is a continuation (projection) of the human body as a strait/shallow water/sandbank is presented as a part of the landscape being salient in a larger piece of land. The semantic components \textit{strip of water/land, projecting from a larger part, narrow} underlie this meaning.

The meaning \textit{arm of a company/organization} is based on a comparison of a branch of an organization with a human hand that functions independently, but is a part of the body (the core of the meaning is the components \textit{a division of a company/organization, smaller part of it}).

The anthropomorphic principle of conceptualization and further naming of objects and phenomena of the environment is realized in the above and subsequent meanings where a person, placing himself/herself in the center, becomes the main reference point, a reference point and personification of all surrounding objects and phenomena, to which he/she ascribes his/her own properties (PESINA, LATUSHKINA 2015; PESINA, YUSUPOVA 2015). These objects are embodied, become likened to the appearance, structure and functioning of the human body, as the closest of all tangible objects. Since these objects and phenomena look and “behave” in the same way as a person, there is a shine-through or oscillation through the semantics of these embodied objects of semantics and/or a visualized background representation of the corresponding part of the human body.

So, the metaphorical meaning of \textit{arm of angles} (any of the usually two parts of a chromosome lateral to the centromere) is based on a schematic representation of a ray (in geometry) passing through one point and forming the sides of an angle. At the same time, the arms of a person raised at an angle may well resemble such a geometric figure as a combination of two semi-linear rays with a common point. The following components underlie this meaning: \textit{combination of two half-lines/rays, with a common endpoint}.

Alike are the metaphors \textit{arm of an anchor} (based on the comparison of a part of an anchor from its “top to the paw” with the human arms spread aside) and \textit{arm of a chromosome} (any of the usually two parts of a chromosome lateral to the centromere). The latter represents any of the usually two lateral parts of a chromosome that is likened to a human arm (the com-
ponents one of the two threadlike structures of nucleic acids, carrying genetic information, and lateral).
The following meaning is not without interest, for it fully proves the fact that this polysematic word conveys information about any object, the appearance of which and its function, position or form are associated with a human arm: arm is a thing comparable to an arm in a form or function; anything considered to resemble an arm in appearance, position, or function: arm of a counterweight / completed machine / cables / stabilizer / cultivators / bridge / tractor / robotic / landing / sea / record player etc.

So, a person thinks anthropocentrically (man is a center of the universe) and anthropomorphically (everything around functions in the image and on the model of how the human body is arranged and functions and, conversely, the properties of the most important objects for people are mapped on them) ... Human thinking is embodied in nature, since man sees the world through the prism of his/her essence. At the same time, anthropocentric and anthropomorphic and embodied methods of conceptualizing and verbalizing reality are both universal and nationally specific.

The empirical invariant-component analysis of metaphorical meanings allows identifying their most frequent semantic constituents. The analysis has led to an objective formulation of such an abstract informative core of the polysemant (its lexical invariant). It can be phrased as something long, narrow and lateral, which projects from a larger object or a smaller division of a larger structure. These components reflect the anthropomorphic worldview of an ordinary native speaker that the arm is the most important functional component of a much more complex and large in size and structure of the main object, and this part, as it were, projects from a larger structure.

The revealed abstract schematic construct makes it possible to fix person’s stereotypical anthropomorphic reflection of objects and phenomena corresponding to both naive and scientific (arm of angles in maths) pictures of the world, a refracted human reflection of reality as a certain stage in the development of their consciousness. In this regard, our thinking is quite predictable and, according to certain algorithms, projects figurative and schematic models of knowledge from a more embodied source domain onto a less understandable target domain in order to better operate with concepts.

Lexical invariant as the quintessence of content plane of the entire lexeme and the result of manifestation of embodied perception, solves another important problem related to the semantic identity of a polysemantic word. The resulting lexical invariant answers the question of what exactly holds all the meanings of a word together, preventing it from falling into
homonyms. The functioning of beyond context invariant meaning of a general character, formed on the basis word’s functioning at the level of the language system, is opposed to speech contextual realizations of individual meanings (SOLONCHAK, PESINA 2015; TANDON, PESINA, PULEKHA 2019).

This approach makes a systemic view of the meaning of words as the cornerstone, which is considered as a reflex of the sum of knowledge comprehended in the corresponding cognitive structure. The search for the very system-forming principle of the naive figurative anthropomorphic principle in content organization of language serves as a stimulus to an invariant semantic analysis of vocabulary.

**Conclusion**

Thus, within the framework of this paper, we have demonstrated on the basis of specific semantic structure of the word that our body (more precisely, its structure and functioning) predetermines the vital aspects of our thinking, verbalization and existence in general. The above fragment of the analysis of frequency lexical units of an anthropomorphic nature has demonstrated our view of the world through the prism of embodied perception. The description of the functioning of the human body is absolutely projected both onto the objects around us, and onto abstract concepts that are often difficult to understand. At the same time, cognizable reality is largely based on the nature of our unique human embodiment. It is safe to say that language does not directly reflect the real world: it reflects our unique human interpretation of understanding the world. In this regard, we view our world through the lens of our own embodiment.

This view of reality is called experimentalism or empirical realism. Experimental realism recognizes that there is an external reality that is reflected in concepts and language. This reality is mediated by our unique human experience, which places restrictions on the nature of this reality. Due to the fact that we are adapted to a specific ecological niche that has a certain shape and configuration, our body and mind provide a special relation to the world or a way of seeing it among many possible perspectives.

The fact that our experience is embodied, that is, to some extent structured depending on the physiological parameters and characteristics of the functioning of our body and our nervous system, has significant consequences for the course of cognitive processes and their further emergence in language. An important consequence of studying the processes of conceptualization and mechanisms for structuring and storing accumulated information, including lin-
guistic information, is the fact that this knowledge lifts the veil as to what our idea of what reality is.

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