

ARTICLE

COGNITIVE POTENTIAL OF CORPOREALITY IN THE DISCOURSE OF INACTIVATED COGNITION

Evgeniya M. Nikolaeva*, Elvira A. Dyukina

Institute of Social and Philosophical Sciences and Mass Communications, Kazan Federal University, Kazan, RUSSIA

ABSTRACT

The modern philosophy of mind describes the end of the Cartesian dichotomy of mind and body as a new idea of the physical nature of consciousness. In the context of this paper, attention is focused on the bodily determination of cognitive functions of consciousness. The opposition body – consciousness seems today to be unrightful and even erroneous: it is impossible to find the body by having lost consciousness, the spirit. The body and the mind are two sides of the same coin: the body mind and the knowing body. This paper attempts to explicate the cognitive potential of embodiment in the conditions of subject-environment interaction. Non-classical epistemology claims that the observer is placed in the environment he observes, and that the process of co-evolution determines his ability to perceive and cognize. The individual, in view of the fact that he has certain cognitive, social attitudes, constructs his own world: knowledge is not viewed as a process of reflection but as a creative, constructive activity. This approach enables to create a holistic dynamic scheme, a synergistic combination of the process of cognition, including the brain as a part of the body, the body as a cognitive tool, the embodied mind and the environment. Instead of the objective reality, there is a reality that constantly comes to fruition, created by self-referential auto poietic systems.

INTRODUCTION

KEY WORDS
body-oriented
cognition, inactivated
approach,
consciousness,
embodiment

The formulation and attempts to solve the problem of the relationship between body and mind are characteristic of philosophical thought from ancient times and are connected with a specific historical landscape: from close interrelationship of body and soul in Eastern philosophy to their sharp polarization in the works by Rene Descartes, the prominent representative of the Western European tradition. Today, the Cartesian dualism in relation to the body provokes a great number of discussions. So neurophysiological bestseller by Antonio Damasio “Descartes’ Error. Emotions, Mind and Human Brain” [1] calls for a review of the influence of emotions on the process of making rational decisions. Based on the studies of different historical eras, the author points to variability and inaccuracy of the ideas about brain, mind, body. The opposition of mind and brain, of mind and body is, according to A. Damasio, not only untenable, but even mythical and fictional. The mind is embodied in the body – the brain, the emotions and the body are a single closed chain of interactions. In order to approach the understanding of the mind, it is necessary to take the principle of a comprehensive study of the organism as a basis, and this entails not only the understanding that the body has both the body and the brain, but also the fact that it is immersed in some physical and social environment.

Another prominent figure in contemporary American cognitive science, George Lakoff, expresses similar ideas. In work coauthored with Mark Johnson “Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought” [2], he develops the idea that the meaning of what is happening for a person is not an objective category defined exclusively by the external world. The reason for this is that in the process of cognizing a person always relies on the experience of his body. Thus, they conclude that the classical theory of truth is false. Truth is formed through the prism of embodied understanding, as well as through imagination

METHODS

Embodied cognition is a new concept for Russian epistemology. This approach was first proposed and substantiated in the book by F. Varela, E. Thompson and E. Rosch “The Embodied Mind: Cognitive Science and Human Experience” [3]. The motivation for writing this monograph is a concern about the fact that science has become divorced from human everyday life. According to the authors, cognitive science and life experience are intended to enrich each other. Referring to the ideas of M. Merleau-Ponty, they argue that only a fusion of embodied cognition and phenomenal experience can give impetus to the further development of cognitive science.

Since the concept of “embodied cognition” gradually acquires new meanings and interpretations, it is necessary to single out its basic characteristics. For example, American psychologist M. Wilson highlights the following [4]:

- 1) Cognition is immersed in a certain environment. Of course, one can argue that such categories as mental images gained from another one, or phenomena that are separated from us by time and space, contradict this position, but the supporters of the theory insist that the rooted cognition is a fundamental cognitive architecture, even if it does not always find reflection in artificial situations characteristic of the modern world.

*Corresponding Author
Email:
kaisa1011@rambler.ru
Tel.: 79173908467

Received: 17 Oct 2018
Accepted: 10 Dec 2018
Published: 9 Jan 2019

- 2) The cognition functions in a compressed time frame. It is assumed that the process of cognition is in a constrained current situation, real-time.
- 3) Cognitive work is “shifted off” to the environment. For example, based on the characteristics of the working memory, we can leave some of the information in the environment (calendars, reference books). Or another example – a person pointing the road can indicate it and turn round the lost, thereby setting the right direction for him. Thanks to such actions, the charge on the cognitive system of a person is markedly reduced.
- 4) The cognitive system comprises the environment. Cognition, as we have already understood, is not the result of mental activity, but it also includes the body and its environment.
- 5) Cognition is meant for action. For example, some types of visual information trigger motor activity, even in the absence of any specific task.
- 6) Autonomous cognition is also based on bodily experience. This position is easily proved using the thought experiment “The Counting on the Fingers”. The counting on the fingers can be clearly expressed by ticking off points on fingers, mildly expressed by the twitching of the fingers barely noticeable to the observer, or not expressed at all when using imagination. This is the so-called sensorimotor modeling of external situations. The examples can be mental images, episodic memory, problem solving, etc.

This list was proposed by M. Wilson more than 15 years ago and, of course, has not been already complete and it meets no longer modern challenges, but it is useful for identifying key points of the concept.

Currently, the concept of “embodied cognition” is relevantly interfaced with such directions as rooted cognition, enactivism, phenomenological and neo ecological approaches, and the theory of dynamic systems. Within the framework of this article, we will discuss enactivism in detail, since this concept is based on the worldview and methodological ideas about the body determination of the cognitive process, about the synergetic connection between subject and object, as well as about the autonomy and cyclical nature of cognition and life.

To understand the concept of enactivism, we give an example of the simplest unit of cognitive activity described in the book “The Tree of Knowledge” by H. Maturana and F. Varela [5]. Such unit is a bacterium that moves in the direction to the maximum content of sugar in the medium. The key conclusion of the experiment is that the bacterium, giving the meaning to one segment, a fragment of space, moves in this direction.

Enactivist approach is based on the idea of the active nature of the process of cognition - the activity of the subject is the main form of cognitive processes, in the framework of this activity a phenomenal experience is formed. The representatives of the enactive approach argue that the content of cognitive processes and phenomenal experience is formed directly by perception and motor skills.

Enactivism, emphasizing the decisive role of the activity of the subject, criticizes the idea that regardless of the structure and qualities of the physical system, provided that it is in a certain functional state, it will have a certain mental state a priori. In turn, he argues that it is necessary to consider each individual system as a system that is: 1) embodied in a particular organism, 2) built into its environment via its activities. According to the pioneers of the enacted approach (F. Varela, E. Thompson, E. Rosch), there exists a direct relationship between the flow of cognitive processes and the specific life experience of an individual person built into the environment. Action and perception are in relation to mutual determination, the interaction between them forms a recursive loop. Enactivism shows that it is impossible to remove a particular embodiment from the process of studying cognitive processes.[3]

RESULTS

The conception of enactivism undoubtedly has a heuristic potential, it facilitates the understanding of the multidimensional world and the place of man in it. This concept, in our opinion, convincingly proves the physical embodiment of thinking in the body, and, consequently, the conditioning of the mind by body experience. The scientific literature [6] identifies the following basic ideas of the conception of enactivism, that facilitate the understanding of the bodily mediated nature of human existence:

first, the natural world and the life world of a concrete cognizing individual are not identical. This is a part of the world, a fragment, the cognition of which is accessible to the body due to the presence of a certain bodily, psychic, mental organization. Theoretically, we have an idea of what it means to exist in the world, using echolocation, like bats, or what the world of a butterfly looks like, perceiving colors with the help of 15 types of different color receptors, but we will never know what it is to be a bat or a butterfly.

Second, the world subjected to cognition is always associated with action. Enactivation is an enactment of a person into the world. Varela argued the cognition to be a process of active participation, the co-determination of external and internal. The idea of the passive acquisition of knowledge through the senses or means of communication is replaced by the idea of their active formation by a knowing agent. For example, it is generally recognized that there is a dependency between motor activity (muscular sensations) and the development of intelligence. It can also be stated that the upright movement of a person is an important condition for the development of his consciousness: having acquired a new level, a

new angle of view, a person finds himself in the position of a critical observer in relation to his environment.

Third, the bodily determination of cognition defines the world. Even imagination or dreams as a form of cognition diverted from the environment is still based on sensorimotor activity. In A. Noe's judgement, the enactivist approach is that "our ability to perceive is not only dependent, but also constituted by our mastery of a certain kind of sensory-motor knowledge" [7]. Thus, this "knowledge-how", knowledge of the relationship between movement and the change of sensory impulses, is a kind of bodily skill. Perception in such system is active, dependent on the activity of a living organism.

Fourth, the constructivist foundations of the conception of enactivism. The life world is created, formed, constructed by a knowing subject. At the same time, knowledge within the framework of constructivism is not true, but viable. Cogitation aims not to achieve the objectivity, but the possibility of adjustment, adaptation. The key is the concept of vitality that replaces the concept of truth and prioritizes the ability to perform certain functions. Cognitive maps that are recognized as viable facilitate developing, entering into the life world and increasing the chances of survival in it.

The results of the experiments prove that during the first 8,2 thousand milliseconds of the observation of a certain object by the respondents, its unconscious perception takes place. At the same time, a part of the obtained information, which cannot be adapted to the already formed ideas about the world, is simply ignored, or even changed. Thus, the idea of an object may not coincide with its real form. J. Lakoff calls this process "a perfectly adaptable system" [8].

And, fifth, as any living organism has its own ecological niche, so by analogy the cognizing subject develops, creates his own cognitive niche. The world is not given to the subject in a finished form, he builds it through his experience on the basis of the specific characteristics of his physical, psychic, mental organization. Thus, the life world (cognitive niche) is created and constructed by the cognizing subject. The question "what can I know?" is replaced by the questions "what should I know?" And "where are the limits of my knowledge?"

DISCUSSION

Today, the philosophy of mind is aimed at including into the research field the patterns and properties of "my experience in the world" and constructing a first-person methodology. The world how it is lived and experienced by me here and now is my experience in its spatial and temporal definiteness, in its situational nature, in its physical conditioning. In the process of cognizing, the body is a "differentiated unity", through which the spontaneously perceived sensual "panasage" (French "pachage" - "jumble") represents unity and integrity.

The inactivated approach is based on the idea of the active nature of the process of cognition - the activity of the subject is the main form of cognitive processes, in the framework of this activity a phenomenal experience is formed. Enactivism, focusing on the decisive role of the activity of the subject, tries to distance itself from the attitudes of representationalism, which insist on taking into account internal processes in describing behavior. Inactivated mind structures, organizes itself through the prism of interaction with the outside world. The cognition becomes possible due to the action: the intellect and cognitive abilities of a living organism in ontogenetic and phylogenetic terms are formed via the motor activity.

The concept of inactivated cognition, introduced by F. Varela, contains a constructivist meaning. Life, knowledge, experience, active action is in synergy. The interaction of the cognizing subject and the surrounding world, their dialogue, dynamic co-emergence form the phenomenal world, the world of experience, my world. [3]

Consciousness as a complex system is operationally closed - it is simultaneously divorced from the world, and connected with it by many direct and inverse connections. With the help of the demarcation line (membrane), the body extracts the necessary information from the environment and at the same time remains isolated from the world, by transforming, it remains holistic, maintaining its identity [6]. The body, in order to maintain its identity, cannot allow its rejection by the environment and therefore, with necessity, it establishes recursive interaction with it. The interaction and co-evolution result in structural adaptation, structural conjugation of the system and the environment, subject and object, while both agents in the process of fitting acquire new qualities.

The cognizing subject and the surrounding world are cyclically determined - on the one hand, we create our life world, and, on the other hand, we are the fruit, the result of creation. Every act of activity takes us beyond our own body, expands our life-world, establishing non-linear return links between the cognizing body and the environment of its activity. [9]

CONCLUSION

The process of studying mind is inseparable and cannot be fruitful without a logical connection with physicality at all. Consciousness and physicality seem to be a single entity, where its constituent parts are

interdependent and mutually complementary. Physicality in relation to consciousness defines itself as the context in which it must be immersed. In this context, there are various aspects of corporeality – corporeality as the physical form of the personality, corporeality as the experience of entering and interacting with the world, corporeality as the visible part of mind.

- The bodily experience extends beyond the immediate frontiers of the human body into the surrounding world (according to J. von Uexkull, Umwelt), which shapes the body-consciousness, being in it and equipping it according to its own understanding [9]. Thus, the study of the relationship of mental and physical in the framework of the phenomenological tradition is based on the idea of the body as about “current intentionality” [10]. The human body plays the role of the “first violin” in the process of perception, it forms values and meanings through the experience of primary sensory perception. Consciousness, body and the surrounding world in this context constitute a single integral closed structure, and bodily experience is a way of a person’s attitude to the world.

- the concepts of embodied mind and enactivism convincingly prove the physical embodiment of thinking in the body, and, consequently, the conditioning of the mind by body experience. The body is a prerequisite for the process of cognition and thinking, it is a kind of interface that connects a person and his environment. Given that, the emergence of the world is due to their interaction, the cognitive agent and the environment are always in a situation of mutual inactivation and mutual determination. Thus, these concepts expand the field of cognitive research due to the introduction of innovations into the subject of study itself, rather than the changes of explanatory models, which we hope will further contribute to the birth of new meanings and the identification of previously unknown possibilities of the human body.

We note finally that the value of the inactivated approach today lies in the accumulation of new heuristic ideas in place of the computer metaphor that has become obsolete. We hope that enactivism will find its future in empirical tests of abstract theoretical models. Of course, there are a lot of controversial, “loose” moments in this concept, but it is likely that a new impetus to the development of cognitive research, a new growth point will appear here.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University.

FINANCIAL DISCLOSURE

None

REFERENCES

- [1] Damasio AR. [1994] Descartes’ error: emotions, reasons and the human brain. 267.
- [2] Lakoff G, Johnson M. [1999] Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought.
- [3] Varela F, Thompson E, Rosch E. [1991] The Embodied Mind: cognitive Science and Human Experience.
- [4] Wilson M. [2002] Six views of embodied cognition, Psychonomic Bulletin & Review. 9(4):625-636.
- [5] Maturana H, Varela F. [1984] The Tree of Knowledge. 367.
- [6] Knyazeva EN. [2014] Enactivism: New Form of Constructivism in Epistemology. 153
- [7] Ivanov DV. [2016] Enactivism and the Problem of Mind / Epistemology and the philosophy of Science. 3:88-104, <https://cyberleninka.ru/article/v/enaktivizm-i-problema-soznaniya>
- [8] Lakoff G. [2006] When Cognitive Science Enters Politics: A Response to Steven Pinker’s Review of Whose Freedom? <https://georgelakoff.files.wordpress.com/2011/03/2006-when-cognitive-science-enters-politics.doc>
- [9] Knyazeva EN. [2015] Innovative Complexity: Methodology of Organization of Complex Adaptive and Network Structures, The Philosophy of Science and Technology. 20(2):50–69.
- [10] Merleau-Ponty M. [1945] Phenomenology of Perception. 525.