SPINOZA'S MONISM, PLATO'S «MATTER» AS THE BASIS FOR THE PHENOMENON OF NEUROPLASTICITY

Olena Chuikova[1]

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Our goal is to show the relevance and organic self-realization of the concept of Spinoza's monism in relation to the phenomenon of neuroplasticity within the framework of neurophysiology (Spinoza, 1957). We are talking about monism (a single substance) of the phenomenon of neuroplasticity to continue studying the problem of «mind-body» based on the dualism of Descartes, according to Damasio (Damasio, 1995). Neuroplasticity erases the long-lasting distinction between the brain and consciousness, gives conscious attitudes towards health, education, operates with exercises performed by consciousness-thinking and trains the brain at the same time – all this erases dualism in favour of a single, identical basis – monism with an external contradictory dialectic of «mind-body» (Damasio, 1995). Also, in addition to Spinoza's monism, Plato's concept of plastic «matter-chora» constitutes the philosophical basis for the phenomenon of neuroplasticity (Plato, 2006).

In the theses, we rely on the works by Plato, Spinoza, Descartes, Damasio, and Doidge. The scientific novelty lies in the fact that for the first time we have identified the conceptual similarity of the philosophy of Plato, Spinoza and neurophysiology, in particular, the concepts of plastic matter, monism and the phenomenon of neuroplasticity. Instead of dualism and reduction, there is an expansion and interchangeability in the structure of the brain, when the properties of plasticity are expanded to areas responsible for other functions. We will conclude that instead of a mechanistically predetermined approach to the properties of the brain, we use the idea of Spinoza's monism to universalize and philosophically conceptualize the phenomenon of neuroplasticity. Spinoza, like Descartes, referred to the rationalists of the New Time and was focused on analysing the properties of thinking, cognitive abilities.

Both of them also dealt with the problems of thinking and the best methods of knowledge (Descartes, 1989). However, Spinoza's materialism, monism with a single substance as the basis of the world resembles Plato's «matter-chora», which is characterized by the properties of plasticity, homogeneity of various forms of the sensory world, their organic interaction, independent manifestation in diverse forms from a single basis-matter. Plastic «matter-chora» contains

[1] Odessa National Medical University, Ukraine

potentiality, its intense actualization, effectiveness, entelechy, the actualization of the form into the external world, as it happens with the step-by-step implementation of the phenomenon of plastic rearrangement of neural connections and the interchangeability of the properties of the brain during exercise. The scientific recognition of the fact that the brain is plastic and can change itself with the help of training and cognition is supported by Plato's idea of a plastic matter-chora that generates itself and all forms of the ideal and sensual world, as well as the Spinoza's mono substance; and in practical application in the field of education and medicine, it represents a tremendous breakthrough in the history of humankind. In dialogues of Plato, Socrates also argued that a person could train his consciousness in the same way as gymnasts train their muscles (Plato, 2006).

It is a well-known fact that changes in the brain can affect our psychology and what we think, but no one has proven the presence of feedback (Doidge, 2011). Norman Doidge reveals the fundamentals of psychological self-healing, proving that the process of thinking and our thoughts can transform our brains, and cultural influences literally «shape» the human brain. Thus, our reaction to the world around us is not only a social or psychological phenomenon but also a prolonged neurological process. The idea that the brain can change its own structure and functioning through the thoughts and actions of a person is the most important, literally revolutionary innovation in modern ideas about the human brain (Doidge, 2011). So Doidge proposed overcoming the narrow bridge between body and soul through their feedback.

Modern neurophysiologists, proponents of neuroplasticity, have the predecessors. Back in the 1820s, Marie Jean Pierre Flourens argued that the human brain is capable of self-reorganization. He found that even Paul Broca, unlike his followers, did not completely reject the idea of brain plasticity (Doidge, 2011). (Doidge, 2011). Doidge proved in practice that the brain is not at all a collection of specialized parts, each of which has a specific place and function, but is a dynamic organ capable of reprogramming and rebuilding itself if necessary. One of the adepts of neuroplasticity, Paul Bach-y-Rita, was also inspired by the ideas of scientists such as Karl Lashley, Paul Weiss and Charles Sherrington, who argued that the brain and nervous system could regain lost functions if parts were removed or the connection between them is broken (Doidge, 2011).

Instead of the principles of the materialistic and mechanistic structure of the brain with a strict distribution of areas and the functions assigned to them in rehabilitation and education, the principles of unity and organic interchangeability of the functions and properties of the brain become relevant. For all dialecticism, there is always a single identical basis for their interaction and subsequent synthesis or elimination of dialectical contradictions. «Hard

wiring» is another metaphor that likens the brain to computer working schemes, each of which is designed to perform a certain, unchanging function (Chuikova, 2017). The proven properties of brain neuroplasticity have shown that assimilation of the brain to a modern machine, a computer, as well as its neurolinguistic programming, are doomed to failure.

The phenomenon of neuroplasticity proves the ability of the brain to reorganize itself through the formation of new neural connections throughout a person's life: from adults in a post-traumatic state or age-related deterioration of the brain to children with mental disabilities. Doidge cites many examples from the practice, talking about patients who have relearned to move and speak after suffering a stroke; elderly people who have managed to improve their memory; and children who have improved their intelligence and overcome learning difficulties. This ability to adapt assumes that the brain is plastic, i.e. is able to reorganize its sensory and perceptual system. Damaged or malfunctioning cells and circuits can actually be regenerated and reprogrammed; the location of a particular function can be transferred from one section of the cortex to another (Doidge, 2011). The discoveries made in the field of neuroplasticity can be useful for professionals in a wide variety of fields, but above all for teachers of all types, they open up new opportunities for improving learning for parents that are now available to them and their children.

Conclusions. Neuroplasticity in philosophy correlates with Spinoza's monism and Plato's concept of «matter-chora», and is also a scientific fact that solves the «mind-body» problem. The properties of neuroplasticity are positive in social life: it is useful both for people seeking recovery in medicine, and for children and teachers in the field of education. Neuroplasticity can be attributed to a transdisciplinary phenomenon: it is a phenomenon and a real fact, it combines theory and practice, medical rehabilitation and pedagogy, philosophy and neurophysiology.

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