

the modernity and tends to deviate from traditional educational institutions. It offers a new educational content that helps people of all ages adapt to transformations in society. By combining goals, principles and result, non-academic education, together with academic, help to maintain the balance of human development, improves the ability to realize the own potential. For this, it is necessary to rally and reconstruct theoretical and practical educational achievements regarding the determination of the personality structure for the search for priority strategies.

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## TOWARDS A METAPHYSICAL NEUTRALITY OF THE NEUROPHENOMENOLOGICAL AND NEUROPHILOSOPHICAL APPROACHES OF CONSCIOUSNESS STUDY

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Current cognitive science, which includes such variety of disciplines as neurobiology, philosophy of mind, cognitive linguistics, computer science etc., tells us that there is no consensus considering the exact connection between brain and consciousness. Everyone agree on the very fact of the existence of this connection. In spite of revolutionary discoveries in neuroscience of the last several decades (e.g. neuroplasticity, neurogenesis, mirror neurons, new understanding of the role of glia etc.), it is obvious that all of them have particular character – the puzzle remains even about the general mechanism of the brain work not to mention the relation of this work to conscious experience.

There are especially many battles considering the so called HPC – the hard problem of consciousness (e.g., Shear, 1997), which is a peculiar modification of classical mind-body problem, the sense of which is questioning of an ontological and causal status of a qualitative experience in relation to neural structures. Chalmers

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(2010), the author of the term HPC, says that there is a necessity of development of a new non-reductive methodology of study of consciousness [1, p. 3-58]. On the other hand, current materialism identifies consciousness with behavior or with some aspects of the processes or structures or functions of the brain, or with a functioning of a system of brain/organism in some specific ecological or social niche, etc. (e.g., [9, p. 53-82]). These are contested by different versions of dualism, emergentism, idealism, sophisticated forms of monism (such as neutral and anomalous), phenomenological approaches (see Westphal, 2016). It is useful to divide all these approaches onto objectivistic those which utilize only 3-d person point of view (let's call them *neurophilosophical*) and approaches that include 1-st point of view (let's call them *neurophenomenological*). We must consider both approaches if we want to construct really non-reductive and coherent theory of brain and consciousness. Such theory cannot be constructed pure mechanistically by adding one thing to another – actually this was the way by which diverse forms of dualism emerged, and as a reaction on them – different types of monism. It was Searle (2004) who indicated, that the mistake was to start counting in the first place [5, p. 88-89]. The problem is that we are talking about very different and yet very sustained phenomena that are incommensurable in a form they are usually encountered with. To begin with the solving of HPC these phenomena must be lead to a common denominator, the thing that is impossible to do with those phenomena directly, out of context, because these phenomena are just sophisticated constructs of some systems of representations and, at the same time, they are products of very specific conceptions and theories, approaches and methods. It would be heuristically useful to reduce all variety of systems of representations and knowledge on this topic to the neurophilosophical and neurophenomenological approaches. In the end, the theory of consciousness, we are talking about, can provide a solution for a consciousness/brain or mind-body problem. This task presupposes the applying of a non-reductive methodology of which the systems method is the most appropriate. Due to the fact that both of the mentioned approaches show themselves as structurally-closed systems with their own languages, subject matters and methods, their integration, if it is possible, presupposes a construction of a metatheoretic system framework. As a presupposition of such integration there must series of tasks be performed. One, we are talking about, is a task of an ontological neutralization of the approaches in question to align them in accordance with the principles of structural ontology, that is inherent to a systems method's metaphysics (e.g., Uemov, 1999). The usage of such metaphysically neutral ontology can be a way of escaping of the useless and disastrous «counting». Our task here is to show inherent possibilities of mentioned approaches to cohere with the principle of metaphysical neutrality.

Neurophenomenological wing of cognitive studies, without rejecting main results of neurophilosophical approaches, insists on non-reductive nature of consciousness. One of the main philosophical sources of this approach is Husserl's phenomenology (e.g., Zahavi, 2017) that has as its basic methodological procedure a so called phenomenological reduction, that, aside anything else, presupposes the acceptance of ontologically neutral phenomenological attitude (*Epoche*). According to

phenomenological philosophy, reality is represented in its relation to the perspective of an intentional act. The existence of an exterior, with regard to consciousness, world is not apodictic. In other words, the world beyond the directness of consciousness, which is realized in the noetic-noematic relations is questionable [4, p. 17-25]. In the end, reality is a construct that is constituted by the intentional acts of intersubjective community of transcendental subjects [10, p. 124-25].

Now let us look at a possibility of an ontological neutralization of a neurophilosophical approach. To accomplish it we can use a trivial example with a visual perception. Put simply, the process of visual perception is described as follows. The distal stimuli (photons, reflected from the surface of an object) during the 3-4 times per second interval contact the retina of an eye (constituting the proximal stimuli), are processed by special nerve cells, after what they proceed via visual nerve (which contains near a million of axons) to optic chiasm, from where nerve impulses transfer to the left and to the right parts of the thalamus. Eventually they find themselves at the occipital part of a cortex where they are transferred from V1 (their condition here correlates with the dynamics of proximal stimuli), through the cortical hierarchy, into secondary and tertiary parts of the cortex, where the «vision» of an object occurs. This oversimplified description of the process borders with incorrect. The problem is that one interesting detail is left out. We are talking about transmitting of nerve impulses through the chains of feedback from an occipital cortex to thalamus and to retina which are ten times more in backward than in forward direction (i.e. from retina to occipital lobe)! [2, p. 56-57; 3, p. 47]. This means that human beings rather guess or predict objects to be seen, than perceive them. Those predictions occur according to a system of invariant patterns of information about the object, with specific aspects of it, distributed in different parts of the cortex [2, p. 56-60; 3]. Seeing a particular object differs when you see it first time in your life or when that object or event is a trivial aspect of your existence. Specific aspects of an object, that you see, are unconsciously recognized by primary zones of an occipital cortex, assessed through the chains of feedback between thalamus and frontal, temporal, parietal and occipital cortex, eventually through the complex chains of categorization, that are based on direct and back relations between thalamus and different parts of the cortex (not to mention «emotional» parts of the brain), an object is categorized and differentiated from a non-object. In the end you can decide (consciously or unconsciously) how to behave in the particular situation. Perception of an object is distributed in different parts of the brain. Given that our neuronal resources are relatively limited, the process of categorization occurs through the system of neural nets in the tertiary zones of the cortex, which provide an invariant processing of neural signals, encode different aspects of the world perceived and impose an encoded sample or invariant when needed. It seems that the brain works under the principle of economy of neural resources. Mostly we are rather dealing with predictions or constructions of an object than with perception of it in a form of mirroring. The system of neural nets, encoding mentioned invariants, molds what can be called the inner model of the world [2, p. 53-66; 3, p. 125-29]. We can assume that this very model is a neural foundation of the assumption of the objective reality,

about which John Searle (1995) speaks a lot. According to his rather convincing arguments there can be no cognition without background presupposition of the objective (independent of our representations) reality [6, p. 177-197]. It is as if we are always dealing with a model of reality, constructed at a neural level, with which our representations are compared. It is naturally to assume that the prototype of that «inner model» is Reality or maybe many Realities or even levels of Reality – this changes nothing. Reality is not so much objective, ontologically speaking, as it should be objective in an epistemological sense. Categorical division into subject and object goes in two directions. In the same way as there can be no subjective without objective or interior without exterior – there is no objective without subjective. That is all attempts of reductionists to omit consciousness, using a subjective-objective (or similar) framework of categories, are hopelessly false from the very beginning. That is why some of them talk a lot about changing of a scientific language, to exclude the very possibility of speaking about consciousness.

Thus we are dealing with specific correlations between principles of neurophenomenological and neurophilosophical approaches regarding problematic nature of the world beyond phenomenological attitude and principled indirectness of data about the prototype of an inner model of the objective world, constructed at a neural level. Such understanding by itself demands rejection of the compromised natural (not neutral) ontological assumptions about consciousness and acceptance of the metaphysically neutral structural-ontological attitude, when study of consciousness is concerned. That methodological stance naturally correlates with a phenomenological attitude of neurophenomenology and with the presupposition of the necessity of objective world of neurophilosophy. This homomorphism is a crucial presupposition of the constructing of the non-reductive theory of consciousness on the metatheoretical system basis, which is our future concern.

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