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Transcendental and Naturalist Conceptions of Consciousness in Contemporary Phenomenology: The Possibility of Integration

EXTENDED ABSTRACT OF DISSERTATION
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The relevance of the study

Recent philosophy can be characterized prima facie as making the 'transcendental turn'. This means that instead of studying the contingent, individual manifestations of the world philosophical thought strives to thematize the universal and comprehensive. The "Copernican turn" accomplished by Immanuel Kant can be understood as move from interest in the empirical subject considered as merely an object in the material world towards interest in the same subject considered as the source of the meaningful reality. The transcendental philosophy has transformed the search for the fundamental building blocks of reality into the reflection on conditions which must be satisfied for something to be regarded as "real" –the conditions of possibility of the objects' experiential manifestation. Hence, the aim of transcendental philosophy is not to suggest the metaphysical image of the world, but to ascertain what does it mean for the world to be real and objective.

Accordingly, there is a shift in emphasis provided by transcendental philosophy enduing the human consciousness with the constitutive role. However, one should take into account the fact that transcendental philosophy suffered major transformations during its historical development. In Kant, the constitutive power of human reason was connected with the a priori fact that, with the help of particular reflexive procedures (i.e. the transcendental deduction), one can deduct from the phenomenal experience its conditions of possibility. From the fact of human beings' having the epistemological access to reality Kant proposed to deduce that which guarantees it and is itself situated beyond human cognition. It is the formal architectonics of the transcendental subjectivity which lays the foundation for the empirical knowledge and cannot be reduced to its empirical articulations within different kind of embodied sentient beings[1].

The latter makes manifest *the dualism of the transcendental and the empirical*. The former is unalterable, necessary, constitutive and a priori, and must become the aim of philosophical interest according to Kant. The latter is changeable, contingent,

[1] See, however, Catherine Malabou's approach to the issue which plays the key role for my study: Malabou C. Before Tomorrow: Epigenesis and Rationality. Malden (MA); Cambridge; Polity Press, 2016.

causal and a posteriori. The "anthropological" subject should be studied by the science, but the foundations of human knowledge cannot be laid out from within the empirical cognition.

The classical transcendentalism claims that it is relevant to seek for the invariant characteristics of sentience, studying them irrelatively to these characteristics' embodiments in the concrete subjects. In the modern parlance, it is the functional organization of the system which is truly relevant, not its inner states – the necessary and universal organization, not the particular and contingent[2]. For this study it is important that this position was further developed in the classical cognitive science of the 1970s-1980s, maintaining the *functionalist* approach to the mental. From the functionalist standpoint, the state of the system can be considered mental not due to its internal constitution, but because of its function within the system's agency. This state can be intertwined with the system's ontogeny, be causally conditioned by its other states and condition its other states[3].

Therefore, for the cognitive science it is relevant to neglect the mental state's internal content in favor of the functional organization of preconscious processes underlying the conscious state[4]. These neurocomputational states define what the cognitivists call the cognitive unconscious. According to Ulrich Neisser's definition, cognition is a mechanism of processing and storage of the input sensory data. For the scientific research the cognitive unconscious possesses precedence over the subject's phenomenal conscious states. Cognition, then, is seen as a preconscious manipulation with the symbolic representations, while its phenomenal byproduct is seen as the superficial effect of these algorithmic computations. The mental states

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[2] Such functionalist interpretation of Kant see, for instance, in Wilfrid Sellars: Sellars W. "…this I or he or it (the thing) which thinks…" // Sellars W. In the Space of Reasons: Selected Essays of Wilfrid Sellars. Cambridge, Massachusetts; London, England: Harvard University Press, 2007. P. 411-436.

[3] Levin J. Functionalism // Zalta E. N. (ed.) The Stanford Encyclopedia of Philosophy (Fall 2018 Edition). Electronical source: https://plato.stanford.edu/archives/fall2018/entries/functionalism/.

[4] This approach got its systematic exploration in Ray Jackendoff's classical work: Jackendoff R. Consciousness and the Computational Mind. Cambridge, Massachusetts: The MIT Press, 1994. It is also relevant to point to the idea of consciousness's redundancy upon the intelligence, which is related to the juxtaposition of cognitive (unconscious) processes and phenomenal states of the system. The cognitive functional states can be emulated on any kind of material substrate, just like as software can be run on multiple types of hardware, which is considered in the idea of multiple realizability of mental states: Bickle J. Multiple Realizability // Zalta E.N. (ed.) The Stanford Encyclopedia of Philosophy (Spring 2019 Edition). Electronic source: https://plato.stanford.edu/archives/spr2019/entries/multiple-realizability/.

(beliefs, desires, perceptions etc.) are considered as the representations of the brain states. Consequently, the mental states can be described in scientifically adequate way in the light of their functionality and relations with the other states, and in the light of their role in production of the observable behavior. This paradigm still remains influential within cognitive science[5].

Only recently consciousness understood as the individual perspective on the world has found its place within the scientific image of the human. This is partly due to the increasing influence of the first-person methodology in the cognitive experiments, with the test subjects' subjective states which have come to be seen as the sources of scientifically relevant information. The reports on the subjective states need the practical cultivation in order to prevent the scientific explanation of consciousness from recourse to the introspection and psychologism. It is phenomenology that is capable of offering such cultivation of experience to cognitive science. This raises the question of the potential of phenomenology to make a valuable contribution to these scientific studies.

Phenomenology can be understood as a philosophical discipline studying the human experience. More specifically, it studies the *experiential givenness* of the world to consciousness. The primacy of givenness brings specific methodological

[5] The cognitivists consider these representations the symbols of the computational 'language of thought' (as it was presented in Jerry Fodor's conception), while connectionists saw this as patterns of network activity, the attractors of the phase space of the system (i.e. the regions of its state space where all the surrounding trajectories converge). In both cases there is an implicit objectivist understanding of representation: the latter are some kind of internal structures containing, in a codified form, a context-independent information somehow referring to information of the outside world, and cognition is decoding this information. The problem here is about absence of the criteria of regarding the information on question as a true image of the state of affairs in the world: what is the basis for juxtaposing mental representation X and state of affair X' presumably mirrored in consciousness? It is impossible to present such correlation of the event and its representation 'from within' the phenomenal experience of the cognitive system, for the very correlation between X and X' would rather be a representation of some state of affairs, and so on forever. Consequently, cognition seen as processing of semantic information giving the system the image of the world and not the world 'as it is' by necessity makes it heteronomous. The truth of representation, as well as its relation to the outer world, is verified by the transcendent observer – in the case of making of artificial neural network it is the engineer capable of stating whether the representing system is working correctly and how close the information processed is to what it must represent in a compressed form. Additionally, the implementation of action cannot be defined by the formal algorithmic rule: the accordance with the rule can be only approximate, probable which means that no kind of precise mathematical ratios can be helpful in enacting the habitual actions. For example, even the usual move of the cup to the mouth cannot be prescribed with the physical-mathematical calculations, however strict their parameters and values might be. The knowledge of thermodynamic or aerodynamic characteristics of the cup's material, its thermal properties, supplemented by the knowledge of neural endings and muscles activated during lifting cups will never give the opportunity to lift the cup to the mouth. Hence, no formal description can take into account all possible variations of qualitative and quantitative data on the bodily movements, the properties of the material surfaces and the effects of their possible interaction.

commitments regarding the implementation of the phenomenological analysis: the phenomenological knowledge is produced by means of the zigzag-formed movement between the 'naïve' pre-theoretical acceptance of the world and the *transcendental* attitude which raises the question of the *constitutive role* of consciousness. Thus, the world turns out to be not the subjectively mirrored reality, but the 'worldly experience'. With this, the redefinition of the transcendental is taking place, in which it ceases to be the formal a priori conditioning of knowledge, becoming the dimension of subjectivity which provides it its constitutive role. Phenomenology refrains from the basic way of accepting the world and things in it, as well as from the causal explanations[6].

In this regard, the scholars raise the question of the possibility of interaction between phenomenology and the sciences of consciousness, and the perspectives of interdisciplinary integration. The issues that concern them are the following: is the synthesis of phenomenology and the positive sciences of the human possible? Are phenomenology and the natural science compatible? What could be the phenomenological critique of the cognitive science, and is the latter capable of introjecting this criticism? In addition to the local methodological discussions, these problems also have an impact on the existential dimension of conscious life, regarding the positioning of the human experience in the context of the situation where, "in the dimension of describing and explaining the world, science is the measure of all things, of what is that it is, and of what is not that it is not"[7].

Therefore, it is possible to note several tendencies. Firstly, phenomenology develops its own definition of the transcendental dimension of consciousness. The fact of the world disclosure to the consciousness says something important not only about consciousness, but also about the world: consciousness is the constitutive locus 'in' which the world is capable to manifest and articulate itself as meaningful[8]. This notion contradicts the naturalist understanding of consciousness as an object in the world. The opposition between the transcendental and the empirical is sublimed

[6] Sokolowski R. Introduction to Phenomenology. Cambridge University Press, Cambridge, 2000. P. 45.
[7] Sellars W. Empiricism and the Philosophy of Mind. Cambridge, London: Harvard University Press, 1997. P. 83.
[8] Gallagher S., Zahavi D. The Phenomenological Mind. London and New York: Routledge, 2012. P. 28.

in favor of the 'transcendental empiricism'[9], where the constitution is enacted by the factual embodied subject embedded into the intersubjective practices. Secondly, in the light of the increasing interest of the sciences of consciousness towards the subjective experience, phenomenology takes on special significance for the cognitive science.

In this respect, the topic of my study affects the metamorphoses of transcendentalism in contemporary phenomenology, as well as the potential of its actualization within cognitive science. During the last decades the relationships between phenomenology and the sciences have evolved. Thus, while in the works of Maurice Merleau-Ponty[10] one could see the 'retroactive'[11] phenomenological interpretation of the adopted empirical results, in more recent programs – such as neurophenomenology[12] or frontloaded phenomenology[13] – the phenomenologist becomes the accomplice of the production of knowledge, offering the

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[9] See: Depraz N. Lucidité du corps. De l'empirisme transcendantal en phénoménologie. Dordrecht, Boston, London: Kluwer Academic Publishers, 2001; Depraz N. L'empirisme transcendantal : de Deleuze à Husserl // Revue germanique international. 2011. Vol. 13. P. 125-148. This tendency for making the human experience the transcendental status, unthinkable within the Kantiab transcendental framework, was noted by Michel Foucault: "It may seem that phenomenology has effected a union between the Cartesian theme of the cogito and the transcendental motif that Kant had derived from Hume's critique; according to this view, Husserl has revived the deepest vocation of the Western ratio, bending it back upon itself in a reflection which is a radicalization of pure philosophy and a basis for the possibility of its own history. In fact, Husserl was able to effect this union only in so far as transcendental analysis had changed its point of application (the latter has shifted from the possibility of a science of nature to the possibility for man to conceive of himself), and in so far as the cogito had modified its function (which is no longer to lead to an apodictic existence, starting from a thought that affirms itself wherever it thinks, but to show how thought can elude itself and thus lead to a many-sided and proliferating interrogation concerning being). Phenomenology is therefore much less the resumption of an old rational goal of the West than the sensitive and precisely formulated acknowledgment of the great hiatus that occurred in the modern episteme at the turn of the eighteenth and nineteenth centuries. If phenomenology has any allegiance, it is to the discovery of life, work, and language; and also to the new figure which, under the old name of man, first appeared less than two centuries ago; it is to interrogation concerning man's mode of being and his relation to the unthought. This is why phenomenology – even though it was first suggested by way of anti-psychologism, or, rather, precisely in so far as, in opposition to anti-psychologism, it revived the problem of the a priori and the transcendental motif – has never been able to exorcize its insidious kinship, its simultaneously promising and threatening proximity, to empirical analyses of man; it is also why, though it was inaugurated by a reduction to the cogito, it has always been led to questions, to the question of ontology. The phenomenological project continually resolves itself, before our eyes, into a description – empirical despite itself – of actual experience, and into an ontology of the unthought that automatically short-circuits the primacy of the 'I think'" (Foucault M. The Order of Things: An Archaeology of the Human Sciences. London and New York: Routledge, 2005. P. 354-355).

[10] In particular, I refer to Merleau-Ponty's works "The Structure of Behavior" (Merleau-Ponty M. The Structure of Behavior. Boston: Beacon Press, 1967) and "Phenomenology or Perception" (Merleau-Ponty M. Phenomenology of Perception. London and New York: Routledge, 2012)

[11] Gallagher S. Phenomenology and Non-reductionist Cognitive Science // Gallagher S., Schmicking D. (eds.) Handbook of Phenomenology and Cognitive Science. Dordrecht: Springer, 2010. P. 26.

[12] Varela F. J. Neurophenomenology: A Methodological Remedy for the Hard Problem // Journal of Consciousness Studies. 1996. Vol. 3. № 4. P. 330-349.

[13] Albertazzi L. Experimental phenomenology: What it is and what it is not // Synthese. 2018. DOI: https://doi.org/10.1007/s11229-019-02209-6.

methodological innovations, ideas concerning the experimental design, or the conceptual framework for analysis of the achieved results. With this, I propose to analyze the conditions of the interdisciplinary integration of phenomenology and the positive sciences, as well as theoretical costs associated with the latter.

The basic context of my study is provided with the program of the *naturalization of phenomenology* – i.e., its alignment to the requirements of the natural scientific method. My main concern here is whether the naturalization leaves any place for philosophical phenomenology, or it simply leads to modernized version of the introspectionist psychology? Or, on the contrary, incorporation of phenomenology into the cognitive science will lead to the redefinition of science and scientific knowledge? The wide discussion which was initiated in 1990s-2000s by philosophers and cognitive neuroscientists is the testimony of the relevance of the topic of my study.

Extent of prior investigation of the topic

The question regarding the relationship between phenomenology and the positive sciences has been widely discussed. It was the classical book by Hubert Dreyfus[14] which initiated the phenomenological criticism of the reductionist understanding of cognition accepted in the project of artificial intelligence. Basing on the works of Heidegger and Merleau-Ponty, who emphasized the context-depended, embodied character of human cognition not reducible to following the formal rules and algorithmic decision-making, Dreyfus criticized the ontological and the epistemological implications of this research program.

The context of my study may additionally include the revival of the interest in the phenomenal consciousness within the so-called philosophy of mind. Eventually, in the mid 1990s it led to the formulation of the hard problem of consciousness by David Chalmers[15], which summarized the preceding works of such

[14] Dreyfus H. L. What Computers Can't Do: The Limits of Artificial Intelligence. New York, Evanston, San Francisco, London: Harper & Row Publishers, 1972.
[15] Chalmers D. Facing Up to the Problem of Consciousness // Journal of Consciousness Studies. 1995. Vol. 2. № 3 P. 200-219.

scholars as Thomas Nagel, John Searle, Daniel Dennett, Owen Flanagan and Galen Strawson[16]. The issue raised by the hard problem refocused the discussion on consciousness towards the methodological plane: how to study the experiential dimension of reality with the scientifically accepted methods?

However, one should not overestimate the potential of the possible integration of phenomenology and analytical philosophy of mind. Apart from the stylistic differences, one should also take into account that both of them raise different scholarly tasks. The phenomenologist initiates the study from the analysis of the experience as lived, and, proceeding with the description of consciousness, would differentiate the modes of experiential givenness and extract the structure of perceptual experience. Without denying the claim that neurophysiological processes play the causal role for the implementation of perception, phenomenologist would refer to the insignificance of these processes from within the lived experience, for the subject never directly encounters her neurophysiological processes[17]. Hence, phenomenology is aimed at *understanding* consciousness, instead of explaining it in causal terms. This understanding can be achieved via the disciplined description of the lived experience of the embodied life, not with the natural scientific explication of its psychological genesis or neurological foundation.

Several recent discussions regarding philosophical naturalism and its phenomenological criticism may be mentioned[18]. For the purposes of my study, the following minimal definition of naturalism may be most relevant: *naturalism* is a world project which considers consciousness an object in the world, albeit possessing the ability for representation which distinguishes it from other objects[19]. Modern naturalism can be seen as a wide range of theories and models covering both

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[16] Nagel T. What is it Like to be a Bat? // The Philosophical Review. 1974. Vol. 83. №3. P. 435-450; Searle J. The Rediscovery of the Mind. The MIT Press, 1992; Dennett D. Consciousness Explained. Boston, MA: Little Brown, 1991; Flanagan O. Consciousness Reconsidered. Cambridge, Massachusetts: The MIT Press, 1992; Strawson G. Mental Reality. Cambridge, Massachusetts: The MIT Press, 1994.

[17] Gallagher S., Zahavi D. The Phenomenological Mind. P.7.

[18] Petitot J., Varela F. J. Pachoud B., Roy J.-M. (eds.) Naturalizing Phenomenology. Stanford University Press, 1999; Gallagher S., Schmicking D. (eds.) Handbook of Phenomenology and Cognitive Science. Dordrecht: Springer, 2010; Carel H., Meachem D. (eds.) Phenomenology and Naturalism: Examining the Relationship between Human Experience and Nature. Cambridge University Press, 2013.

[19] Certainly, this definition can be considered as to general, but, during the subsequent discussion in this study I will reveal further aspects of naturalism and naturalization relevant for the problematic field of my research.

analytical and continental philosophical programs. In particular, I propose to rank as naturalist not only the programs of the representatives of philosophy of mind, but also of the proponents of speculative realism and new materialism. I will try to show that Quentin Meillassoux's speculative materialism is a modernized form of naturalist metaphysics, while Catherine Malabou's responding program of epigenetic rationality continues and develops the transcendental motives close to phenomenology.

It is worth mentioning the collective monograph "Naturalizing Phenomenology" (1999) which presents a wide range of problems related to the interrelationships between phenomenology and the positive sciences. According to the monograph authors' statement, the critique of naturalism provided in Husserl's manifesto "Philosophy as a Strict Science" had lost its relevance, because Husserl did not have at his disposal the resources of the dynamical systems theory which might close the gap between the mental and the physical[20]. Hence, the phenomenological rejection of naturalism[21] is a result of a scientific mistake rather than the outcome of the autonomous philosophical consideration. The authors claim that this mistake can be corrected with the help of recent interdisciplinary approaches to consciousness.

It is worthy of note, however, that only a few scholars develop the consistent transcendental understanding of phenomenology leading them to rethinking naturalism[22]. Here I refer to the duality of transcendentalist and naturalist world projects which I will maintain in the subsequent discourse. Laszlo Tengelyi, following Heidegger, considers two mutually exclusive 'world projects' each giving priority to different ontological poles[23]. The *transcendental world project*

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[20] Roy J.-M., Petitot J., Pachoud B., Varela F. J. Beyond the Gap: An Introduction to Naturalizing Phenomenology // Petitot J., Varela F. J. Pachoud B., Roy J.-M. (eds.) Naturalizing Phenomenology. Stanford University Press, 1999.

[21] According to Zahavi, as early as in 1915 Husserl claimed that the condition of progress of philosophy is its implacable antagonism against naturalism, and that philosopher adopted the doctrine of naturalism ceases to be a philosopher (Zahavi D. Naturalized Phenomenology // Gallagher S., Schmicking D. (eds.) Handbook of Phenomenology and Cognitive Science. Dordrecht: Springer, 2010. P. 7).

[22] It is important to emphasize that transcendentalism does not necessarily sees itself as anti-naturalism, taking into account a number of naturalist arguments. At the same time, the mainstream naturalism always sees itself as anti-transcendentalism. See the subsequent chapters of my study.

[23] Tengelyi L. Agonistic World Projects: Transcendentalism Versus Naturalism // The Journal of Speculative Philosophy. 2013. Vol. 27. № 3. 2013. P.236-252.

emphasizes the core role of conscious subjectivity as a constitutive condition of possibility of the world as givenness. On the contrary, the naturalist world project uses the material world as a starting point, seeing it as an 'objective' physical nature completely independent from mind. These positions define the polarization of the philosophical interests, still considering one and the same world seen in different aspects: either as a fundamentally dependent on the activity of consciousness or as itself giving the material foundation of consciousness.

The most remarkable criticism of naturalism provided by recent phenomenologists can be seen in the work of Dan Zahavi[24]. According to his position, for naturalism everything existing in the world including all aspects of human life, must be studied with the natural scientific methods. But the vulnerability of naturalism making it 'fundamentally flawed' arises from its commitment to metaphysical realism which Zahavi defines as considering consciousness as faithfully *mirroring* the objective reality. The truthful, objective knowledge, which for naturalism is provided by science, can be achieved with the removal of any traces of the presence of subjectivity from the scientific image of the world.

However, Zahavi claims, the scientific objectivity is based on experience shared among the community of subjects, which in turn presupposes the interchange of perspectives[25]. The intersubjective consciousness is not an obstacle for the objective image of reality but the necessary implication for scientific knowledge. In Zahavi, as for other phenomenologists, reality is a system of significance and

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[24] Zahavi D. Naturalized Phenomenology: A Desideratum or a Category Mistake? // Carel H., Meachem D. (eds.) Phenomenology and Naturalism: Examining the Relationship between Human Experience and Nature. Cambridge University Press, 2013. P. 23-42; Zahavi D. Phenomenology and the Project of Naturalization. Phenomenology and the Cognitive Sciences. 2004. Vol. 3. P. 331-347.

[25] It is possible to refer to Thomas Nagel's claim according to which the objectivity constituted as a position completely independent from the species specific and individual perspective of the knowing subjects is in fact implicitly dependent on it. The subjective conditioning of objectivity is inescapable, and the desire to achieve 'the view from nowhere' remains an unattainable regulative idea. According to Nagel's position in a 2012 book, understanding of the relations between consciousness and body affects our general view of the universe which demands a speculative worldview providing the philosophical generalization of the particular positive sciences within a naturalist framework thus instituting the general hierarchy of the sciences. The main thesis here is that consciousness in its natural historical evolutionary development depends on the way how the living beings possessing it are embodied – which eventually depends on physical, chemical and biological evolution of the universe. These processes, according to Nagel, should be considered in the light of what they gave raise to, i.e. conscious and intelligent beings capable of conceiving themselves as parts of the overwhelming process of life's and minds' becoming. The mind as the continuation of life should be included as the latest stage of the cosmic history having an effect on all its previous stages. See: Nagel T. Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature is Almost Certainly False. Oxford University Press, 2012.

meaning needing a subjectivity, i.e. an experiential and conceptual perspective towards the world in order for it to be manifested and articulated. It is the sense in which reality is mind-depended when Husserl claimed that saying something on reality completely independent from intentional givenness is just nonsensical as talking about the round square[26]. The natural scientific knowledge needs foundation which is itself completely different from natural science, and the 'primary fact' of mind-dependence of reality lays beyond the scope of scientific observation.

The close position can be encountered in the works by Michel Bitbol in which he combines such very different sources as philosophical interpretation of quantum mechanics, phenomenology, Buddhism and Kantianism in order to articulate the fact that science is based on what he calls 'the blind spot'[27], i.e. the consciousness which cannot be thematized as an object in the world. Instead he proposes the idea of 'the science *of* consciousness'[28] possessing the transcendental status and concentrated on the analysis of the mind's constitutive activity and criticism of the naïve objectivism intrinsic to some scientific programs (in particular, cognitive science and physics).

Generally speaking, what Zahavi and Bitbol are trying to point out is the 'primary fact' that consciousness is a 'locus' 'where' the world takes place as experientially lived. The intersubjective, interchangeable character of experience does not allow to reduce it to a private introspective feeling, which means that phenomenological experience is both lived and articulable[29]. Hence, the phenomenological subjectivity is constitutive[30] in the sense of being an embodied, factual, dynamically orienting subject, possessing its own trajectory of ontogenetic

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[26] Husserl E. Ideas Pertaining to a Pure Phenomenology and Phenomenological Philosophy. First Book: General Introduction to a Pure Phenomenology. Springer Science & Business Media, 1990. §55.

[27] Bitbol M. Decoherence and the Constitution of Objectivity // Bitbol M., Kerszberg P., Petitot J. (eds.). Constituting Objectivity: Transcendental Perspectives in Modern Physics. Dordrecht: Springer, 2009. P. 347-358.

[28] Bitbol M. Neurophenomenology, an Ongoing Practice of/in Consciousness // Constructivist Foundations. 2012. Vol. 7 (3). P. 165-173; Bitbol M., Luisi P.L. Science and the Self-Referentiality of Consciousness // Journal of Cosmology. 2011. Vol. 14. P. 207-223; Bitbol M., Petitmengin C. On life beneath the subject/object duality // Journal of Consciousness Studies. 2011. Vol. 18. P. 125-127.

[29] Zahavi D. Internalism, Externalism, and Transcendental Idealism // Synthese. 2008. Vol. 160. P. 358.

[30] The general framework for considering consciousness constitutively can be summarized as follows: consciousness in constitutive way in the sense in which the world seen as an objective reality is objective only insofar as it is given to the subject in a perceptual experience. Hence, this implies the phenomenological modification of objectivity. See chapter 1.

development embedded into particular community and culture. With this, it can be characterized as the subject *for* the world, not the object *in* the world.

What are the possible scenarios of relationships between phenomenology and the positive sciences in the light of the positions of Tengelyi, Bitbol and Zahavi? The problematic field common for philosophy and science are phenomena seen as the parts of nature[31], hence, philosophy is seemingly open towards correction and enrichment with the results of the empirical scientific findings. However, one should not overestimate the significance of such borrowings, for in phenomenology it is the experience which guides conceptual analysis, not vice versa. The phenomenological reduction presupposes the refrain from theoretical commitments, and this is the reason why the possibility of direct integration of philosophy and natural science remains dubious. Zahavi leaves open the question of the possibility of mutual interaction of phenomenology and the sciences while emphasizing that phenomenologists should not ignore the phenomenologically relevant empirical findings.

However, it is worth to note several other scholars who seem to be more collaborative regarding the empirical sciences. Thus, Shaun Gallagher develops the idea of 'frontloaded' phenomenology based on the notion of direct integration of the particular insights of phenomenology into the experimental design[32]. Within the experimental situation these insights, set out as basic conceptual distinctions or hypotheses regarding the structure of the cognitive act, are verified by comparing them with the test subjects' reports and neurophysiological data obtained with the experiment. Afterwards, these insights are used in subsequent experiments and suffer further corrections and modifications. Eventually, Gallagher develops not simply an empirically informed phenomenology interpreting the ready-made results (as it was already exemplified with Merleau-Ponty's work), but the concrete

[31] Although 'nature' is defined in different ways in philosophy and science with regard to nature's relation to mind.

[32] Gallagher S. Mutual Enlightenment: Recent Phenomenology in Cognitive Science. Journal of Consciousness Studies. 1997. Vol. 4. № 3; Gallagher S. Phenomenology and Experimental Design: Toward a Phenomenologically Enlightened Experimental Science // Journal of Consciousness Studies. 2003. Vol. 10. № 9-10. P. 85-99; Gallagher S., Sørensen J. B. Experimenting with Phenomenology // Consciousness and Cognition. 2006. Vol. 15; Gallagher S., Varela F.J. Redrawing the Map and Resetting the Time: Phenomenology and the Cognitive Sciences // Canadian Journal of Philosophy. Vol. 33. P. 93-132.

scientific methodological proposal and the introduction of phenomenology into the experimental design. Nevertheless, despite the Gallagher's optimism and the variety of case studies elaborated in collaboration with the brain scientists and psychologists[33], I claim that in such a tandem the final word belongs to the science, not philosophy, for which the adherence to objectivism common among the scientists remains problematic.

The similar understanding of the tasks of phenomenology can be found in Daniel Schmicking[34]. However, his account of phenomenology is more theoretical than Gallaher's: phenomenology can provide not only descriptions, but also the explanation without reducing the transcendental genesis to the causal conditioning. The examples of *phenomenological explanations* for Schmicking are Husserl's theory of formal ontology and a dynamical understanding of consciousness in genetic phenomenology. Such explanation, he claims, can provide categories for a precise capture of experiential episodes within the context of individual development and its phylogenetic determinations. In doing so, he points to the necessity of 'purifying' phenomenology from metaphysical 'embellishments', connected with the specific phenomenological terminology, which can prevent it from being used by cognitive scientists and psychologists.

Within this scenario of integration, phenomenology is considered as a toolbox of instruments for the reflexive analysis of experience. At first glance, it gets it closely to the methodology of the introspectionist psychology of the late XIX – the early XX centuries, from the criticism of which phenomenology had arisen. The reflexive practice of phenomenology involves not only the attentiveness to the lived experience, but also the intersubjective validation of one's experience, thus complementing the introspectionists' attention to the purely subjective side with the

[33] Cole J., Gallagher S., McNeill D. Gesture following deafferentation: a phenomenologically informed experimental study // Phenomenology and the Cognitive Sciences. 2002. Vol. 1. № 1. P. 49–67; Froese T., Gallagher S. Phenomenology and Artificial Life: Toward a Technological Supplementation of Phenomenological Methodology // Husserl Studies. 2010. Vol. 26. № 2. P. 83–106; Gallagher S., Cole J. Dissociation in self-narrative // Conscious Cognition. 2011. Vol. 20. № 1. P. 149–155.

[34] Schmicking D. A Toolbox of Phenomenological Methods // Gallagher S., Schmicking D. (eds.) Handbook of Phenomenology and Cognitive Science. Dordrecht: Springer, 2010 P. 35-55.

intersubjective dynamic of mutual attentiveness[35]. Such modification of phenomenology without reduction can legitimize the rediscovery of the legacy of introspectionism[36]. The proponents and enthusiasts of this position claim that the introspectionist psychologists – such as Edward Titchener – had elaborated the analytical methodic and even got the results relevant for the cognitive science[37].

The works of Clair Petitmengin, Pierre Vermesch and Michel Bitbol[38] may be mentioned here, where they propose the methodological redefinition of introspection as enabling the fluctuation between the first-person reports and their second-person validation with the help of the interview method. They claim that this method develops Husserl's notion of the elusiveness of the boundary between conscious and preconscious states within the stream of consciousness[39]. Exploring the procedures of phenomenological work, the subject gains the opportunity to reveal the 'automatic' cognitive mechanisms functioning under the threshold of phenomenal consciousness.

The 'middle path' between strict transcendentalism and phenomenologically-minded neo-introspectionism can be found in the work of Natalie Depraz. She

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[35] Petitmengin C. Describing One's Subjective Experience in the Second Person: An Interview Method for the Science of Consciousness // Phenomenology and the Cognitive Sciences. 2006. Vol. 5. P. 229-269; Petitmengin C. Towards the Source of Thoughts: The Gestural and Transmodal Dimension of Lived Experience // Journal of Consciousness Studies. 2007. Vol. 14. №3. P. 54-82; Petitmengin C., Bitbol M. The Validity of First-Person Descriptions as Authenticity and Coherence // Journal of Consciousness Studies. 2009. Vol. 16. №10-12. P. 363-404; Petitmengin C., Lachaux J.-P. Microcognitive science: bridging experiential and neuronal microdynamics // Frontiers of Human Neuroscience. 2013. Vol. 7. P. 617; Petitmengin C., NaVarro V., Levanquyen M. Anticipating seizure: Pre-reflective experience at the center of neuro-phenomenology // Consciousness and Cognition. 2007. Vol. *1*6. №3. P. 746-764.

[36] Petitmengin C., Remillieux A., Valenzuela-Moguillansky C. Discovering the structures of lived experience // Phenomenology and Cognitive Science. 2018. P. 1–40.

[37] Petitmengin C. Describing One's Subjective Experience in the Second Person. P. 231.

[38] Petitmengin C. Describing the Experience of Describing? The Blindspot of Introspection // Journal of Consciousness Studies. 2011. Vol. 18. №1. P. 44-62; Bitbol M., Petitmengin C. On Pure Reflection. A Reply to Dan Zahavi // Journal of Consciousness Studies. 2011. Vol. 18. P. 24-37; Bitbol M., Petitmengin C. A Defense of Introspection from Within // Constructivist Foundations. 2013. Vol. *8.* № 3; Bitbol M., Petitmengin C. On the Possibility and Reality of Introspection // Kairos. 2013. Vol. 6. P. 173-198; Vermersch P. Husserl the Great Unrecognized Psychologist! // Journal of Consciousness Studies. Vol. 18. № 2. P. 20-23; Depraz N, Varela F. J. Vermesch P. On Becoming Aware: A Pragmatics of Experiencing. Amsterdam: John Benjamins Publishing Company, 2002.

[39] Schmicking D. A Toolbox of Phenomenological Methods // Gallagher S., Schmicking D. (eds.) Handbook of Phenomenology and Cognitive Science. Dordrecht: Springer, 2010 P. 49; Vermersch P. Introspection as practice. Journal of Consciousness Studies. 1999. Vol. 6. № 2-3. P. 17–42. It seems that such understanding of introspection is different from the classical approaches, because the recent scholars emphasize the transcendental relevance of the experiential invariances under study. Hence there is a positive feedback between the empirical results and the transcendental reflection: none possesses the methodological or ontological priority, for the duality of the transcendental and the empirical resolves in favor of the unity of the stream of consciousness, in which the philosophical and natural attitudes reveal the different aspects explicating each other.

distinguishes the phenomenological constitution from material causality, appealing to the necessity for supplying the neurobiological explanation with the transcendental genesis emergent upon the former and irreducible to the local interactions among individual neurons or microcognitive acts[40]. In this sense, her position develops some positions of enactivism initiated by Francisco Varela, Evan Thompson and Eleanor Rosch in 1991[41]. Enactivism will be at the center of my investigation, for it develops phenomenological understanding of consciousness as the constitutive dimension of the world, thus maintaining the consistent version of the transcendental priority of consciousness within the framework of cognitive science. They develop this position with the redefinition of relationships between consciousness and world, introduced the relations of 'codependent arising' which includes the both sides of this dichotomy into the dynamics of emergence of the global states from the local interactions. In its turn, it has an impact on the methodological issue on the relations between science and human experience[42]. Varela, Thompson and Rosch define cognition as embodied action, the implementation of which depends on the kind of embodiment, environment and cultural context of the knowing subject, which, then, defines the enactivist understanding of scientific knowledge. The science, for enactivists, does not give an objective, comprehensive image of reality as it is 'in itself', but is itself a reflection of a cognitive organization of the knower[43].

It is instructive to consider the enactivist view of scientific knowledge as developing the genetic phenomenological understanding of science as an intersubjective symbolical institute constituted by the community of embodied subjects inhabiting the lifeworld. Nonetheless, it is important to note that enactivism's proximity to the transcendental world project received almost no

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[40] Depraz N. When Transcendental Genesis Encounters the Naturalization Project // Petitot J., Varela F.J., Pachoud B., Roy J.-M. (eds.) Naturalizing Phenomenology. Stanford University Press, 1999.
[41] Varela F.J., Thompson E., Rosch E. The Embodied Mind: Cognitive Science and Human Experience. Cambridge, Massachusetts, London, England: The MIT Press, 1991.
[42] Varela F.J., Shear J. First-Person Methodologies: What, Why, How? // Varela F.J., Shear J. (eds.) The View from Within: First-Person Approaches to the Study of Consciousness. Imprint Academic, 1996. P. 1-14.
[43] Varela F. J. The Naturalization of Phenomenology as the Transcendence of Nature: Searching for Generative Mutual Constraints // Alter: Revue de Phénoménologie 5. P. 355-385.

scholars' attention[44]. It is worthy to name the Russian interpretations of enactivism: in particular, the work by Dmitry Ivanov[45] developing the issues of mental representation in enactivism, and Elena Knyazeva's work where she interprets it as a form of constructivist epistemology where the subject becomes the 'primary cause' of reality[46]. But I contend that this interpretation is problematic, since historically enactivism inherits only a few traits of constructivism, being a continuation and radicalization of biological theory of autopoiesis. Beyond autopoiesis there are multiple conceptual sources which laid the foundations of enactivist synthesis: one can name Merleau-Ponty's phenomenology, David Hume's criticism of the idea of a substantial ego, the Buddhist psychology and metaphysics among many others. In particular, it is the Buddhist notion of circular causality, not Husserl's idea of constitution, that defines the enactivist understanding of consciousness as emergent yet definitive dimension of the worldly experience. In this regard, I consider it of great importance to reconstruct enactivism as a philosophical, not empirical scientific program, developing the motives of phenomenological transcendentalism.

It remains an open question, however, which stage of phenomenology conforms to enactivism. Traditionally, scholars divide the development of phenomenology into two main stages, that is, static and genetic. The static phenomenology investigates different types of experience as the components of the invariant organization of the transcendental subjectivity from the first-person perspective. The genetic phenomenology is interested in monitoring the dynamics of ontogenetic development of emergent cognitive structures and their respective contents (modes of givenness), both in individual and intersubjective and/or populational perspectives[47]. It is also interested in what kinds of implicit 'knowledge' or mental activity is presupposed with the experience of givenness, thus

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[44] One of the few exclusions: Goddard J.-C. Autonomie, réduction et réflexivité : la philosophie naturelle de Francisco J. Varela et le projet transcendantal // Intellectica. 2003. Vol. 36-37. P. 205-225.

[45] Ivanov D. V. Radikal'nyj enaktivizm i problema subjektivnosti // Voprosy filosofii. 2016. №11. P. 60-69; Ivanov D. V. Enaktivizm i problema soznanija // Epistemologija i filosofija nauki. 2016. Vol. 49. №3. P. 88-104.

[46] Knyazeva E. Ynaktivizm: novaja forma konstruktivizma v epistemologii. M., SPb.: Centr gumanitarnyh iniciativ, 2014.

[47] This definition can be found in Schmicking and in Barry Smith: Smith B. Truth and the Visual Field // Petitot J., Varela F. J. Pachoud B., Roy J.-M. (eds.) Naturalizing Phenomenology. Stanford University Press, 1999. P. 317-329.

introducing the second- and third-person perspectives as definitive of the self. With this, genetic phenomenology shifts emphasis from the individual consciousness to the sphere of intersubjectivity and the passively adopted parameters such as language and its basic level of 'prototyping' experience[48], culturally specific habits regarding the body, social organization, gender and sexuality etc. This demonstrates the tendency of the enlargement of the scope of transcendental philosophy, one of possible episodes of which is seen in phenomenology's interest in cognitive science[49].

Research object and subject

The object of the research are the projects of the integration of phenomenology as a transcendental 'world project' into the interdisciplinary studies of consciousness.

The subject of the research is the transformation of the transcendental 'world project' in contemporary phenomenology and its realization within the programs of naturalized phenomenology, cardiophenomenology, enactivism, neurophenomenology and epigenetic rationality.

Research purpose and tasks

The **purpose** of my research is to designate the perspectives of integration of transcendental and naturalist conceptions of consciousness in the programs of contemporary phenomenology.

In order to reach the research purpose, I need to solve the following **tasks**:

1. To reconstruct the projects of contemporary phenomenology as articulating the 'transcendental world project' in the following aspects: (1) providing the criticism of naturalism and (2) giving an outline of the

[48] Here I refer to the theory of prototypes created by one of the founders of enactivism Eleanor Rosch, see: Lakoff G. Women, Fire, and Dangerous Things. University of Chicago press, 2008.

[49] The example of theories presenting the results relevant for phenomenological research can be seen in the 'extended mind' hypothesis and its applications in material culture: Clark A., Chalmers D. The Extended Mind // Analysis. 1998. Vol. 58. № 1. P. 7–19; Malafouris L. Metaplasticity and the Primacy of Material Engagement // Time and Mind. 2015. Vol. 8. № 4. P. 351-371.

perspective of denaturalization of scientific knowledge, where both (1) and (2) imply the defense of the constitutive priority of consciousness considered as transcendental intersubjectivity.

2. Having considered the basic conceptions of the naturalization of phenomenology – their methodological foundations, applications in empirical studies, and philosophical criticism – to present the possible perspectives of combining the transcendental priority of consciousness and its dependence on the material nature, basing on the conceptions of Natalie Depraz, Francisco Varela, and Catherine Malabou.
3. To reconstruct the project of enactivism as a way of realizing the phenomenological approach in cognitive science, supplementing it with the intersubjective dimension related to the existential-practical aspect of the conscious life, based on the comparison of enactivism and the conception of epigenetic rationality.

Theoretical and methodological basis of research

In accordance with the purpose and tasks of my research, I used such methods as comparative and conceptual analysis, as well as the historical method of reconstruction of the context relevant for understanding the main issues of the topic. At the same time, I am aware of the dichotomy between the phenomenological work per se and the historical-exegetical studies in the field of history of phenomenology. Here I refer to Herbert Spiegelberg's understanding of phenomenology. Phenomenology considered as a reflexive analysis of consciousness differs from 'metaphenomenology' – i.e. the reconstruction concentrated on the local issues regarding the doctrinal similarities and differences among the historical figures of the phenomenological movement. The distinguishing feature of phenomenological work is that the object of study – here, the human consciousness and the ways of its scientific exploration – dictates its own conditions of analysis, and, accordingly, requires the elaboration of the appropriate conceptual apparatus. As I try to show in my work, contemporary transcendentalism is 'inclusive' to the extent that it involves

into the area of relevant topics the empirical definitions of the human being that go beyond the field of a priori knowledge traditionally associated with transcendental philosophy.

The scientific novelty of the research

1. The attempt was made at reconstruction of phenomenology as 'transcendental world project' considering the intersubjectivity as a constitutive dimension and presupposing the criticism of naturalism and the denaturalization of the scientific knowledge which turns out to be the part of existential-practical dimension of the embodied life.
2. The following conceptions of the naturalization of phenomenology were critically examined: Eduard Marbach's 'phenomenological notation', Shaun Gallagher's 'frontloaded phenomenology', Francisco Varela's 'neurophenomenology', and Natalie Depraz's 'cardiophenomenology'. As a result of the critical examination, the methodological, ontological and epistemological shortcomings of these conceptions were revealed.
3. The philosophical and scientific conception of enactivism was reconstructed as a 'middle way' between transcendentalism and naturalism, aiming at thematizing the conscious life as lived in its existential, epigenetic and plastic dimensions, showing the inadequacy of theoretical arguments regarding consciousness.

The main theses of the research

1. The contemporary phenomenological transcendentalism provides consciousness, understood as the transcendental intersubjectivity, with the constitutive dimension, which leads its representatives to the criticism and rejection of naturalism and metaphysical realism. This presupposes understanding of scientific knowledge as intersubjective embodied praxis, through which the perceptual reality is being constituted.

2. The phenomenological understanding of scientific knowledge does not permit to talk about consciousness in terms of the traditional cognitive science which rejects from taking into account the subjective lived experience, and instead presents (the transcendental) science *of* consciousness.
3. It is possible to distinguish two scenarios of naturalization of phenomenology. The first scenario presupposes the methodological subordination of philosophy to science, what is achievable through the philosophical interpretation of the results of the empirical investigations or using the concrete phenomenological insights within the experimental design. The second scenario involves 'denaturalization', i.e. the acceptance of the phenomenological attitude to science, and implies the consideration of natural science from the standpoint of the science of consciousness.
4. From the phenomenological standpoint it is the second scenario which is more appropriate and is exemplified with the program of enactivism. Enactivism provides consciousness with the constitutive role and proposes to consider it as the subject for the world instead of object in the world, which leads it to the rejection from the possibility to achieve the objective knowledge. The dynamical and self-referring character of the enactivist knowledge presupposes the rejection from the search for theoretical solution of the hard problem of consciousness, shifting towards the existential-practical dissolution. The concretization (enactment) of such a practical dissolution is an epigenetic metamorphosis of the subject entering the dialogical interrelations with the other subject.

Theoretical and practical value of the dissertation

The materials of this research can be used for preparation of the courses dedicated to the history of contemporary philosophy, ontology and theory of knowledge, philosophy of science. The results of the research may be used in studies

focused on elaborating the methodological and epistemological aspects of the relations between philosophy and the sciences of consciousness.

The approbation of the research results

The main provisions and results of the dissertation were presented at the following conferences:

1. XXIV international scientific conference of students, postgraduates and young scientists “Lomonosov-2017”, organized by Moscow State University in April 10-14, 2017, report “The Archaeology of the Non-Given. The Critique of the Finitude and the Speculative Foundations of Phenomenology”
2. VIII international conference of the School of Philosophy “The Modes of Thinking, The Ways of Speaking”, organized by National Research University “Higher School of Economics” in April 26-29, 2017, report “Contingent or Necessary? On the Speculative Transcendentalism”
3. The school of young scientists “Subject, Consciousness and Cognition in the Context of Philosophy and the Cognitive Sciences”, organized by Institute of Philosophy of the Russian Academy of Sciences in November 7-8, 2017, report “Phenomenologization or Naturalization? Between Philosophy and Cognitive Science”
4. The conference “Philosophy at the XXI Century: The New Strategies for Philosophical Search”, organized by Moscow State University in December 4-8, 2017, report “Can We Abandon the Transcendental?”
5. IX international conference of the School of Philosophy “The Modes of Thinking, The Ways of Speaking”, organized by National Research University “Higher School of Economics” in April 26-30, 2018, report “Consciousness and the Natural History: From Autopoiesis to Epigenesis”
6. The international scientific seminar “The Transcendental Turn in Contemporary Philosophy-4”, organized by State Academic University for the Humanities in April 18-20, 2019, report “Nothing conceived by

Nobody: The Transcendental Horizons of Enactivism and Observational Philosophy”

Main body of thesis

The **introduction** lays foundation of the relevance of the study, outlines the extent of prior investigation of the topic, formulates of the subject and object of the study, aims and tasks, exposes the methodology, describes the scientific novelty, presents the main provisions and results of dissertation, and articulates its theoretical and practical value.

The **first chapter** is concentrated on considering phenomenology as contemporary form of transcendental philosophy. In particular, in section **1.1** I trace the shift from the notion of objectivity to the notion of intersubjectivity in the phenomenological understanding of cognition. In subsection **1.1.1** I begin with the distinction between the transcendental and naturalist 'world projects' introduced by Laszlo Tengelyi. The naturalist world project gives the priority to the mind-independent objective reality. The transcendental world project begins from considering consciousness *transcendentally*, i.e. as a constitutive dimension. In that regard, the givenness of the world should be considered in relevance to the mind's 'contribution' to its emergence. The fact that the world is disclosed to consciousness, says a lot not only about the nature of consciousness but also about the world given to it. Hence, for the transcendental world project consciousness is the 'locus' 'in' which the world is capable of disclosing and articulating itself as meaningful.

According to Dan Zahavi's position, there is a transformation of transcendental philosophy in phenomenology where the factors of the world constitution (empirical, intersubjective, historical, cultural, social) are ceasing to be merely empirical contingencies upon the transcendental subject but acquire the status of the necessary conditions of the constitution. Hence, there is the *intersubjective transformation of transcendental philosophy* in phenomenology, which is justified be the argument claiming that the subjective perception of the object is guaranteed by its intersubjective (horizonal) perceptibility: the thing is real only insofar as it can in principle be perceived by others. The experience of the object is not only my own private experience, but also my experience of the other's experience of this object. This notion of the experience of the other leads to the

phenomenological modification of *objectivity* redefining it as the result of the intersubjective constitution of the common *horizonal* world. Intersubjectivity acquires the transcendental relevance, hence the subjective experience is meaningful only insofar as it can become intersubjective. The phenomenological transcendentalism is inclusive and involves the levels of passive pregivenness which do not imply neither the contribution of the individual consciousness nor its awareness in the implementation of these processes.

It is the 'automatism' of passive genesis and the emergence of the new experience from the subsequent which are related to the *genetic phenomenology* analyzing the preconscious cognitive processes. In subsection **1.1.2** I address the Evan Thompson's program where he tries to combine the optics of genetic phenomenology and the systems theory, what eventually leads him to considering consciousness as a dynamical system, and individual history of constitution including its ontogenetic transformations as the history of perturbations tracing the ontogenetic trajectory of the system in environment filled with attractors. Claiming that the perceptual world is the result of the endogenous activity of the system, Thompson develops the analogy between the 'coupling' between system and its environment and the 'immanent transcendence' of consciousness observed by Brentano and Husserl. Being the subject recognizing itself as both the source of meaning in reality and the part of the same reality, the consciousness cannot be seen as an object in the world. Hence, phenomenology can be considered not as the science of the observed systems but as the science of the observing systems, which is, according to Michel Bitbol's definition, implies the transition to the transcendental level of examination.

The system's reflection on itself and its situation in the environment presupposes the transformation of its relation to the scientific knowledge, which is the subject of subsection **1.1.3**. In later Husserl, the science as well as other normative institutions accumulates the models and patters of experience sedimented as results of the subsequent collective experience. In the light of the genetic analysis of the mathematization of science in §9 of Husserl's "Crisis of European Sciences"

the abstract scientific truths are seen as patterns of past generations' experience used without the necessary reactivation of this experience. The genetical analysis of scientific knowledge traces back the emergence of abstract scientific models from the embodied experience. Hence, the emergence of the scientific proposition for phenomenology is the outcome of such transformation of experience in which the move from continual, lived-in, embodied space of the lifeworld to homogeneous, discrete, neutral, decentralized space set up with the formal definitions, is accomplished. The access to this dimension of experience is gained with the 'phenomenotechniques', that is, the presubjective factors of constitution of the scientific phenomena.

Such understanding of the production of scientific knowledge is incompatible with mainstream naturalist programs. Section **1.2** is dedicated to the naturalist critique of phenomenological transcendentalism. In subsection **1.2.1** the general outline of naturalist argument against the transcendental priority of consciousness is presented. From the naturalist standpoint, there is a form of material being existing ontologically 'before' and 'beyond' consciousness. This ontological sphere, however, can become the object of phenomenological description, for it becomes observable from within the phenomenal experience and conceivable only to the extent that it can be *phenomenalized*, brought to experiential givenness. The subsection 1.2.2 is dedicated to the overview of recent continental materialist attack on phenomenology. In **§1.2.2.1** I give a brief summary of Gilles Deleuze's criticism according to which there is a pre-sensical material reality enjoying the metaphysical priority over consciousness and its coupling with the world, and which, I claim, summarizes the naturalist notion of the priority of material nature over mind. This criticism of phenomenology is continued in Quentin Meillassoux, and I proceed with the reconstruction of his program as anti-phenomenological in **§1.2.2.2**. He puts the argument regarding the existence of reality before the emergence of thinking – the prehistorical reality accessed via the natural scientific mathematical models working with indirect evidences.

The knowledge of the prehistorical dimension of reality leads Meillassoux to the appeal for turning back the Copernican turn in order to rehabilitate the realism of the scientific knowledge. Zahavi insists that Meillassoux's program, along with the naturalist fetishization of the natural scientific method, maintains the modernized version of *metaphysical realism*. There is nothing necessary in the correlation of thinking and being without being contingent at the same time; the factual consistency of the laws of nature correlated with the consistency of the laws of knowledge is necessary only for human representation of the world, not the world itself. Hence, for Meillassoux the laws of cognition, being the part of the laws of nature, are contingent.

Subsection **1.2.3** is dedicated to the criticism of Meillassoux's position seen as a modern version of the anti-transcendentalist naturalism. **§1.2.3.1** claims that speculative materialist project develops the rationalist understanding of scientific knowledge which is in fact anachronistic. Meillassoux's realism is not the realism of modern science aware of its dependence on the figure of the observer but rather the realism of the pre-Kantian metaphysics. With reference to the interpretation of the role of technology in the production of the scientific knowledge, it is shown that mathematics is not the knowledge of the Absolute (as Meillassoux claims it to be) but rather the 'phenomenotechnique', i.e. the set of procedures making the unobservable objects to the phenomenally given.

In **§1.2.3.2** it is stressed that the phenomenological understanding of consciousness is closer to the realism of natural attitude than to idealism criticized by Meillassoux. The phenomenological attitude does not redouble the ontology of mind and nature but explicates the experientially given world before any speculative philosophizing or scientific explanation.

§1.2.3.3 criticizes Meillassoux's proposal to renew the distinction of primary and secondary qualities, where the former are articulated in terms of mathematics or mathematical physics and the latter are sensually perceived. Basing on Husserl's notion of the genesis of physical object from the perceived thing, I show that the concept of the abstract object – medium of the primary qualities – emerges as the

distillate of the perceived thing – medium of the secondary qualities. It is possible to talk about the abstract geometrical or physical properties of the perceived thing only insofar as these properties refer to the experientially given thing. The scientific description is capable of mathematizing the object to the extent that it can be given in experience of observation via 'phenomenotechnique'.

§1.2.3.4 analyzes the notion of precedence of material nature in terms of the operation of *retroactive constitution* giving the phenomenological solution of the question of relations between consciousness and material nature. Consciousness is not the 'part' of nature, for it could not give meaning to it if it would be the part of what it constitutes. Hence, 'prehistorical' nature in Meillassoux can be considered in a phenomenologically relevant way only from within our intentional relation towards it, as a prehistory of consciousness.

Additionally, I try to show that phenomenology provides the moderate position with regard to Meillassoux's criticism of 'the Ptolemean revenge' by involving the Earth as the 'home place' and as the space object into the genetic relations. In existential experience of dwelling the Earth never presents itself as an object among other objects, phenomenologically being the 'center' of the world. The Earth as lived is an unmovable 'ancestral home' of animate beings which is presupposed in genetic inequality of the lived body (Leib) and the material body-object (Körper), giving the birth of the latter from the former via abstraction.

§1.2.3.5 is focused on the mathematical side of Meillassoux's argument – that is, on his understanding of contingency as non-totalazible absolute infinity. Basing on Tengelyi's distinction between the *absolute infinity* and *the transfinite*, I show that in perceptual experience the subject conceives the finite number of the aspects of the thing, not with the infinity itself which stays a regulative ideal. If the thing was an absolute infinity, we could totalize and perceive the object as a closed infinity. This would have given the total coverage of the thing regardless of the internal organization of its constituting aspects (its order, mutual connections, perceptual context). Instead of this I propose to consider the thing as a *transfinite multitude* where the internal organization and mutual connections between the

elements of the multitude are relevant, and where totalization of the whole aspects of the thing is not available.

Finally, **§1.2.3.6** how the linking of the world transcendence to the immanence of consciousness is works with regard to the notion of contingency. Basing on Catherine Malabou's reply to Meillassoux's project, I show how the criticism of necessity as 'hidden contingency' reduces cognition enacted by embodied animate beings to the abstract mathematical reasoning. Malabou sees the coherence (Übereinstimmung) of mind and world dynamically as a mutual gestation, which, through what she calls the *transcendental epigenesis* and *self-organization*, leads to the emergence of the 'deductive solidarity' between experiential categories and objects of experience. Malabou reveals the dynamical, *plastic* dimension of the transcendental, thus combining the structural and evolutionary images of reason and embedding the contingency into the very organization of transcendental subjectivity. The paradigmatic experiential situation for Malabou's epigenetic transcendentalism is the encounter of two living beings, where the 'other' seems alien and its behavior seems contingent and unpredictable from the purely rationalist standpoint.

The **conclusion** of the first chapter is the following: in phenomenology consciousness is seen as a part of a triad "mind – intersubjectivity – world", which leads to redefinition of the transcendental no more opposed to the empirical. The constitutive subject is a participant of the community of dynamical systems open to the world. The constitution here can be defined as the self-organizing activity of the system introducing the exogeneous events into the endogenous network of processes forming the system as a functional whole. In the light of the genetic phenomenology the scientific truths are the approximations of the truths of the lifeworld (i.e. the phase space of the systems filled with attractors). The special role in the implementation of the abstraction is played by technologies which phenomenalize the unobservable objects and processes. Despite the arguments of modern continental materialists, the phenomenological subject has the access to the world 'beyond correlation' via the use of 'phenomenotechniques'; is capable of infinite (transfinite) variation of its perceptual experience; is contingent within the natural

historical scale, but maintains its transcendental relevance; being an animate being, is capable of teleological agency and can suffer the epigenetic metamorphosis.

In the **second chapter** I address the naturalistic programs less hostile towards phenomenology which seek to position consciousness in nature. As a starting point I propose to consider the qualitative definition of subjective experience which resists the physicalist reductive explanation. In section **2.1** I give a brief overview of Thomas Nagel's concept of 'qualia', in which the materialist picture of the world remains incomplete without taking into account the mental phenomena in the aspect of their subjective character. This is compounded by the 'explanatory gap' according to which any kind of precise and 'objective' understanding of physical processes articulating the 'inner' states of the system will fail to account for what is it like to be such a system with such an organization, living such particular experience.

This duality of the subjective and the objective dimensions was thematized by Wilfrid Sellars. Section **2.2** is dedicated to the phenomenological interpretation of his notion of the duality of projects, or 'images', of the human being. The manifest image articulates the prescientific self-understanding of the human conceiving herself as the subject possessing the 'inner' states which cannot be reduced to the physical states. The scientific image gives the natural scientific universal causal explanation. It is possible to claim that the human consciousness is currently the last bastion of the manifest image. In the light of the gradual absorption of the manifest image by the scientific image the phenomenological self-understanding will be eliminated in favor of the scientific (i.e. the neurophysiological) explanation. Hence, the representatives of neurophilosophy defend the *epistemological priority* of the scientific image, while the phenomenologists defend the *genetic priority* of the manifest image, identifying it with the lifeworld.

One of possible ways of nonreductive incorporation of phenomenology into the scientific image can be presented with the idea of naturalization of phenomenology, which is the topic of section **2.3**. Generally speaking, naturalization of phenomenology is such a phenomenological approach to consciousness which suffices the modern requirements on the scientific method. The enthusiasts of

naturalization claim that Husserl's criticism of naturalism is obsolete and call for expansion of the concept of nature by introducing consciousness as one of its crucial elements.

According to their views, Husserl failed to anticipate the emergence of the dynamical systems theory which will be capable of considering both mental and physical phenomena with the same set of structural invariants. Subsection **2.3.1** overviews the basic concepts of the cognitive science relevant for the idea of naturalization. The cognitive scientific explanation reduces phenomenal consciousness to the work of the unconscious processes of information processing. For classical cognitive scientific *functionalism*, it is the distinction between consciousness and cognition, i.e. the subjective mental states and subpersonal cognitive processes, where the latter define the object of study for cognitivism.

Additionally, there are scholars who focus on ambiguity and insufficiency of the interpretation of mental vocabulary. There is no intersubjective alignment of mental terms, claims Daniel Dennett, for the last instance of verification of the mental term is the private experience which cannot be studied scientifically. That is the reason why he proposes to use the third-person method when the agent's observable behavior is described on the basis of 'intentional stance' towards the speech acts of the agent placed within the controllable experimental conditions.

Subsection **2.3.2** is concentrated on the first understanding of naturalization which tries to translate the language of phenomenological description into the formal, precise language appropriate for the cognitive science. In **§2.3.2.1** I review the idea of formalization of phenomenology developed by Eduard Marbach with which he presents his own solution to the problem of interpretation of mental vocabulary and the scientific communication on consciousness. He introduces *phenomenological notation* exemplifying the formal structure of experience seen as recursively ordered intentional acts.

However, this approach remains problematic. As I show in **§2.3.2.2**, the first problem touches upon isomorphism. Marbach says that what is applicable to the formal structure of the mental act, is true of preconscious cognitive processes. It is

unclear why he extrapolates the rules for constructing mental acts to the processes which are presumably underlie them yet remain phenomenally unavailable. I refer to the distinction between formal and regional ontologies illustrating the principle according to which in order for something to be an object 'in' the world it should be given to the subject 'for' the world. When these two levels of description are confused, one commits a category mistake considering the formal region of consciousness with the lenses of regional ontologies of mathematics or psychology. Moreover, the intuitive character of experience cannot be exhaustively explicated by the formal language. In Husserl's work, the mathematical precision of naturalist framework is incompatible with the 'vagueness' of the stream of consciousness: the strict conceptual fixation of givenness is insufficient, for the intentional objects are indistinguishable from the constitutive acts of consciousness enacting them.

According to Shaun Gallagher's position examined in subsection **2.3.3** it is necessary to seek not for analogies or isomorphisms but for *correlations* between neurophysiological explanations and phenomenological descriptions where both approaches constrain, enlighten and enrich each other retaining the mutually advantageous cooperation instead of competition. The first signs of such transformation of phenomenology can be found in the works by Maurice Merleau-Ponty. However, Gallagher notes that Merleau-Ponty's project did not fulfill the aims of naturalization of phenomenology, since it was based on the interpretation of ready-made results without the acknowledgement of methodology and experimental design supplying the empirical results. Hence the correct strategy of naturalization implies incorporation of phenomenology into the experimental situation, thus giving philosophy 'back to laboratory' and motivating the philosophers to collaborate with the neuroscientists within the case studies. In this regard, the request arises for such interdisciplinary studies of consciousness which would combine the correctness towards the empirical scientific study with the critical philosophical attitude.

§2.3.3.1 considers Gallagher's proposal for importing the selected phenomenological conceptual decisions into the experimental design. He believes it to bring forth the 'phenomenologically enlightened experimental science' which

would begin its work from direct incorporation of the phenomenological insights into the way how empirical studies are organized. With this, phenomenology can still be a descriptive discipline getting along without the empirical studies, but capable of providing methodological recommendations for cognitive science.

However, it is clear that the integration suggested by Gallagher remains a theoretical add-on to the empirical studies which not only distances his enterprise from phenomenology as a philosophical analysis of consciousness. From Zahavi's standpoint these studies exemplify phenomenological psychology which proceeds without implementing *epoche* and reduction within the natural attitude albeit is not identical to introspection. Certainly, being the valuable source of knowledge about consciousness and cognition the studies of frontloaded phenomenology, according to Zahavi, can become the propaedeutic for the transcendental thematization of consciousness as the constitutive dimension instead of the object of material nature.

In Gallagher, the phenomenological insights borrowed into experimental studies are deprived from their initial reference to the experience and thus become theoretical interpretations. This contradicts Husserl's notion that in phenomenological work the descriptive categories should be elaborated inextricably from the lived experience to be described. Obviously, these categories, when frontloaded into the experimental design, completely loss their experiential sources and thus their dynamics.

§2.3.3.2 examines the implementation of the method of frontloaded phenomenology into the study of social cognition. Traditionally, social cognition is treated *individualistically* as subjective reconstruction of the other's mental life by analogy. It is based on the idea of 'mindreading' – i.e. constructing a 'theory' explaining the inner motivations for the other's actions.

Gallagher's 'naturalized' ('enactive') hermeneutics develops the interactive perspective within the issue of social cognition. He points to the internal relations between the implementation of cognitive acts towards other and the context of situation, emotive and somatic aspects of preverbal communication, the subtle changes in the other's mimic and gestures. My recognition of the other presupposes

my responsive participation into her emotions and actions. Hence social cognition is affective and cannot be reduced to the execution of the abstract cognitive task. To know the other is to be affected by her, to be exposure to the affect of the other.

Despite the efficiency of the 'naturalized hermeneutics' the relations between philosophy and science in it still remain problematic. The attempt at the preliminary answer is outlined in subsection **2.3.4** where I examine Natalie Depraz's solution of the hard problem of consciousness. **§2.3.4.1** analyzes the *synchrony* between phenomenological and cognitive-scientific studies of consciousness. Thus, the static phenomenology corresponds to the connectionist approach to cognition, while the genetic phenomenology corresponds to the embodied mind approaches. The prioritized level of analysis for static phenomenology is the ontogeny and its functional noetic organization, which, according to Depraz, matches with the connectionist understanding of learning. In *connectionism*, the artificial neural networks consist of simple neuron-like units connected with each other. The strength of the connection undergoes change while the system learns and develops more 'replete' and mediated connections between simple elements.

While the static phenomenology in Depraz considers the 'internal noetic functionality' of ontogenetic development, connectionism considers the network as the internal functional organization of neurons. While for the former the noetic-noematic correlation can be explained in terms of the function and its value, the latter substantiates the similar principle within the learning brain or its mathematical model. What is common for them is the fact that both see the cognitive processes as endogenous and based on the internal sources of the system.

The consideration of the mind's dependence on preindividual and supraindividual determinations led phenomenology to the analysis of processes laying beyond the conscious control of the subject, i.e. the passive syntheses thematized by genetic phenomenology. The shift to genetic phenomenology can be seen as the shift from the static correlations between consciousness and object to the dynamical process of the emergence of sense where cognition is understood as embedded into the environmentally, culturally and socially specific practices

holistically producing consciousness as the product of interaction between the system and environment.

From Depraz's standpoint, it is intersubjectivity which becomes the primary locus of the encounter between the transcendental genesis and the naturalization project. I examine her attempt at introduction of intersubjectivity into the practices of cognitive science in **§2.3.4.2**. For her, it is important to know that cognitive science striving to explain empathy and social cognition is itself an institution based upon mutual empathy between the scientists. The scientific knowledge is enacted by the subjects involved in the multiplicity of symbolic practices one of which is the natural science – the organization of experiments, the interpretation of the achieved results, and the distribution of knowledge. That is why the science trying to explain consciousness in a nonreductive way should reflect upon itself as the intersubjective practice. For Depraz, this paradigmatic enaction of empathy within the scientific image of the human lays foundation for the second-person dimension of intersubjectivity which leads her to the introduction of the second-person methodology in cognitive science. Thus, the dynamics of alteration as the process of mutual exchange of positions between self (ego) and other (alter ego, thou) is used in methodological considerations.

In contrast to the traditional understanding of the relations between the first and the third persons in cognitive science, Depraz defines the second person through the dynamics of coupling between the subjects in which the one has no autonomous existence before her encounter with the other. She introduces the concept of 'intercorporeity' as a genetic, affective source of intersubjectivity: before we become the participants of the community of knowing subject each one of us should be 'incarnated' 'into' the world through her body. The coupling (Paarung) in Depraz refers to the *alterity* immanent to the individual's corporeal identity. This means that intersubjectivity is a 'fold' between 'self' and 'other' genetically prior to their distinction: the other is inconceivable without me, at the same time legitimizing me as the autonomous agent and the host of conscious life. In order for the pair to

emerge two systems should be coupled to each other, and their 'fold' should be coupled to the environment perceived by both systems as their common lifeworld.

The animation, affect, alterity and temporality in Depraz are the different names for the same unique event within the human experience. She postulates that the regime of phenomenological access to this event is given by the somatic-vegetative affective processes of the body which she calls 'the *heart'*. These processes are elaborated with the sources of 'cardiophenomenology' which widens the perspective of the brain-centered cognitive science. I review this project in **§2.3.4.3**. From Depraz's standpoint there is a continuity between the physiological articulation of the heart as the part of the circulatory system, and its lived manifestation corresponding to the feelings, emotions and affects. The perception of the emotional-affective state is a result of phenomenalization of the subpersonal somatic-vegetative processes. In analogy to the double regime of the access to the body, i.e. Leib and Körper, Depraz distinguishes the double regime of the access to affectivity – Herz and Gemüt, where the former refers to the heart as the organ of the blood circulation and the latter – to the most 'intimate' part of the body, the locus of emotional homeostatic processes.

The 'heart' becomes the basis for the alternative model of the relations between mind and body which Depraz contrasts to the mainstream versions of psychophysiological problem. This model involves the temporal and affective dynamic into the static mind-body problem emphasizing the phenomenological, lived dimension of somatic-vegetative processes manifested in the experience of the 'heart'.

In the **conclusion** to the second chapter I claim that it is possible to consider the subjective dimension of conscious life only 'from within' the manifest image articulating self-understanding of the human being. One of the attempts for reconciliation of manifest and scientific images is exemplified with the project of naturalization of phenomenology in which phenomenology is translated into the formal precise language or included into the experimental design. The other way of

naturalizing phenomenology is provided by reforming cognitive science from inside through introducing the alternative formulations of the problem of consciousness.

The **third chapter** is dedicated to the fact that the subject's acknowledgement of her dependence on the homeostatic organic processes and the genetic determination by the intercorporeity, transforms the subject. This knowledge goes beyond the scientific explanation of reality and is related to the existential-practical aspect of conscious life.

It is the program of enactivism that combines naturalizing phenomenology with the transcendental priority of consciousness and is situated at the center of this chapter. In section **3.1** the 'prehistory' of enactivism in the biological theory of autopoiesis is considered. Observing the living system one can identify the invariants of its behavior and generalize them applying to any living system including the observer herself. The living systems according to Humberto Maturana and Francisco Varela are *autopoietic* systems capable of *self-creation* maintaining their coupling with the environment and taking all that is necessary for maintaining their organization.

Since Maturana and Varela claim that everything said is said by an observer, the propositions of theory of autopoiesis articulate the point of view of the living systems – that is, the human beings. We can talk about ourselves as living beings only insofar as we are able to assimilate ourselves to other living beings. The autopoiesis presupposes the possibility of fluctuating between the description of the other living system 'from the outside', and the reflexive application of the elaborated descriptive categories to the observer herself as a living being. It is possible to say that 'self' (the observer) and 'other' (the observed system) involve into the mutual exchange of reflexive positions.

The autopoietic system possesses a phenomenology that is determined by its cognitive organization; this is the set of recurrent interactions between the system and its environment, from within which one cannot separate them, hence the system and environment are mutually constitutive, are involved into the relations of codependent arising.

This understanding of phenomenology corresponds to Varela's attempt at creating the '*expanded* cognitive science' giving any system satisfying certain requirements to its organization and its maintenance the ability to constitute its own meaningful reality. The realization of this attempt within the program of enactivism is examined in section **3.2**. Varela's understanding of aims and tasks of 'expanded cognitive science' – that is, *detection of cognitive invariants* – articulates the transcendental world project's pursuit for the genetic dependence of the scientific image to the factual cognitive organization of ourselves. The works of Varela and his colleagues are distinguished by their search for the experiential structures immanent to any system's cognitive activity which can be revealed with the special reflexive procedures.

Enactivism as a part of the embodied cognition paradigm was initiated in 1991 with the book "The Embodied Mind" by Francisco Varela, Evan Thompson and Eleanor Rosch. They define enactive cognition in a two-part formula analyzed in subsection **3.2.1**. The first formula of enactivism is the following: *cognition is an embodied action*. The embodiment means that (1) cognition depends on phenomenal experience available through particular bodily organization and its sensorimotor contingencies; (2) these contingencies are embedded into an inclusive biological, psychological and cultural context. Action means that (1) the sensorimotor unity of action and perception makes them indistinguishable; (2) being organizationally intertwined, action and perception evolved together.

The second formula of enactivism is the following: (1) *cognition is perceptually guided action*; (2) *the cognitive structures emerge from recurrent sensorimotor patterns guiding action*. The processes leading to the emergence of the perceptual world should be considered as temporally and spatially extended, involving brain (or, more widely, the central and autonomous nervous system), body and environment, while the contents constituted via these processes are enacted as the dynamics of structural coupling of system and environment. The term 'enaction' reveals the dynamical, interactive aspect of cognition and its genetic dependence on the cognitive agent's organization.

The subsection **3.2.2** concentrates on the contingencies of this organization. As Tom Froese claims, it was David Hume's argument on the absence of the substantial ego ordering the flux of perceptions that was revisited and radicalized in enactivism. In her perceptual experience, the subject never encounters herself as the 'host' of the mental acts existing apart from the multiplicity of these acts. The multiple local 'selves' collectively producing the phenomenological ego is seen in enactivism as exemplifying the emergence – that is, the two-sided process of *dynamical co-emergence* of parts and whole. Whatever be the system and the kind of its activity, that which emerges from it has its own identity and domain of interactions. In autonomous system the whole not simply emerges from local interactions between operationally closed network of elements, but these partial elements themselves emerge from the whole. The whole is constituted by the interactions between parts which, in their turn, are constituted by their relationships within the whole. Hence, the whole and its parts mutually constitute each other within '*codependent arising*'. The biological life from the standpoint of autopoiesis is the paradigmatic case of dynamical co-emergence. The living system's 'self' is an emergent effect of interaction between the underlying processes of different levels of organization.

The enactivist network approach to the organization of the system's local subsystems producing the system's phenomenal perspective is reviewed in subsection **3.2.3**. The connectionist approach to cognition (previously reviewed in §2.3.4.1) allows for the existence of non-neuronal cognitive networks, thematizing the organization of these systems instead of their embodied structures. As an example, I review the enactivist approach to the immune system as an epigenetic cognitive system. The immune events – that is, the interaction with the elements invading inside the boundary of the system – are the part of the distributed processes intertwining different cellular events. The immunological relevance of an element of the system supplying it with significance, can be encountered from within *the immune 'phenomenology'*. This 'phenomenology' implies that at the level of immune cognition it is impossible to consider the organism as a consistent 'self'

with the strict boundaries. On the contrary, the immune 'self' is always a process of signification during the system's interaction with the environmental affordances and other systems – this can be interpreted as cardiophenomenological somatic, affective encounter with the other – here realized at the microscale of mutually contagious exchange of positions. Hence, the immune processes are cognitive, and enact the system's ability for the epigenetic identification of its boundaries constituting its 'immunological self'. With the case if the immune systems one can see how the system enacts via its self-reproductive activity the domain filled with significance for this system, making the environment its *lifeworld*.

The dynamics of local interactions between immune, cognitive, somatic, neuronal processes producing the individual 'self' is interpreted by enactivism with the help of the concept of 'codependent arising' giving a philosophical interpretation of emergence, which is examined in subsection **3.2.4**. Cognition is defined in a connectionist way as local interactions between units on the level of the functioning of the system producing the global behavioral patterns emergent upon the network of these units. In enactivism, there is a shift in accent to the dynamics of local interactions producing that which cannot be observed 'from inside' the perspectives of the units involved in these interactions. These networks of processes should be considered as 'always already' 'captured' by that which emerges from their interactions: they cannot be considered independently from what they have given birth to.

The interrelations between the local and the global levels of organization of the living system are analyzed by Varela, Thompson, and Rosch in terms of 'codependent arising'. The co-emergence of the global phenomenal 'self' and the local perceptual, immune, reflective, decision making processes occurs *instantaneously*. The subject 'hosting' these processes cannot recognize her dependence from them, at the same time being a meshwork, an assembly of agents implementing a local task. These subsystems in a meshwork are related to each other not causally but in a way in which each unit conditions all other units and vice versa. This also applies to the stream of consciousness which the enactivists describe as

the pursuit for the subjective pole which would ground this stream in a fixed permanent 'self'. Enactivism grants methodological priority not to the unified explanatory models of global system's behavior but to the particular cognitive acts (in an expanded sense of cognitive agency) and their assemblages. As a consequence, enactivism sees the 'self' as a virtual formation, i.e. as the global which depends from the local which is in its turn 'captured' by what it has given birth to.

This interpretation of emergence leads enactivists to the formulation of the idea of 'selfless selves' which is reviewed in subsection **3.2.5**. Developing the abandonment of the substantial 'self' Varela points to the multiplicity of selfless identities producing the phenomenal 'self'. In addition to the immune 'self' Varela distinguishes the cognitive *perceptive-motor* 'self' enacted in the automatic reflex behavioral reactions, the *sociolinguistic subjective* 'self' involved into the communications with other 'selves' producing the *collective social totality*.

Subsection **3.2.6** is dedicated to the enactivist approach to the relations between cognition evolution. According to Varela, Thompson and Rosch, for classical cognitivism cognition is subordinated to the task of optimal adaptation to the environmental conditions: hence, it gives as accurate representation of the world as possible in order to accomplish the survival. This understanding *prescribes* the optimal cognitive repertoire of the forms of life: in cognition, everything that does not contribute to adaptation is prohibited. By contrast, enactivism develops the *proscriptive* understanding of cognition and evolution which I propose to compare with the *hyponormative* understanding of the transcendental in Catherine Malabou: everything that is not prohibited is allowed. Until the system is capable of maintaining the autopoietic organization modifying its contingencies, it continues to live and cognize constituting the world which it is structurally coupled to. This process of multiplying forms of autopoiesis is treated as the 'natural drift' by enactivists. It is possible to say that cognition can be enacted with multiple ways, while the human cognition is but one of multiple trajectories in the branching flow of organic evolution devoid of substantial foundation. It means that the pursuit of

objective reality common for any kind of living systems reveals the '*groundlessness*' of experience.

The phenomenological discovery of 'groundlessness' converts the subject finding out the dispossession of her and reality's foundations. The access to this knowledge is given by the reflexive practices of neurophenomenology which is analyzed in section **3.3**. One of main tasks of enactivism is introduction of the subjective, experiential dimension into the framework of cognitive science which develops the enactivism's implicit practical orientation borrowed from phenomenology, Buddhism and psychoanalysis: the neurophenomenological self-exploration *converts* the subject.

Section **3.4** develops the existential-practical consequences of the enaction of the subject's metamorphosis basing on later Varela's and his colleagues' works of the 2000s. According to Depraz Varela and Vermesch, that which is thematized in neurophenomenology affects the *preconscious* processes of interaction between immune, somatic, cognitive 'selfless selves', which, in their turn, can reveal their structural experiential side by virtue of mastering the reflexive procedures. That is why phenomenology is considered as the reflexive continuation of the practical laying-out of the structural coupling.

The human life is a practical involvement into action and communication with others. The 'automatic' implementation of enaction is seen by Depraz Varela and Vermesch in the light of positioning individual mental acts into the collective enaction of the human reality. Hence, they consider phenomenology as 'transcendental empiricism': the duality of transcendental and empirical dissolves in reconstruction of the process of emergence of empirical structures from the transcendental organization where the latter is unthinkable without the former.

It is the practical dissolution of the hard problem of consciousness proposed be enactivism as the form of transcendental empiricism which is examined in section **3.5**. Varela develops the *dialectical* approach to the binary oppositions, such as mind/body, reason/nature treating them holistically as two sides of an integrated whole codependently arising from each other.

The teleology of the system's behavioral patterns emerges due to the synchronized work of this system's structural subsystems each of which can be separately explained causally; however, considered dialectically, these partial subsystems give rise to the teleological whole. It is possible to say that Varela's new dialectical definition of teleology articulates his idea of '*phenomenologization of natural science*'. The integral part of this *new naturalism* is phenomenology considering consciousness as a constitutive dimension with which nature is redefined as inhabited with living systems and immanently saturated with significance. The observer of the living system is herself a living organism, thus life itself can be known by other life only, and consciousness – by other consciousness.

The organizational invariants of cognition and life are unthinkable apart from the material components embodying them. The dichotomy of organizational invariants and the structures embodying them is replaced by the constitutive dynamics of enaction, factuality and situatedness of life as cognition. It is accompanied by the metamorphosis of the subject reflecting on the foundations of her cognitive activity as a living system within an environment enacts the self-referent application of enaction to enaction itself which realizes the *practical dissolution* of the hard problem.

It obvious however that the enactivist and neurophenomenological understanding of phenomenological work can be criticized as ignoring the intersubjective aspect of cognition. Section **3.6** is dedicated to how the enactivism's initial idea of naturalization of phenomenology can be rearticulated as contributing to 'phenomenologization of natural science' with the help of reconstructing the missing element – intersubjectivity of living systems. Subsection **3.6.1** considers the critique of naturalization according to which the phenomenologically relevant subjective experience reflects the commonly accepted, i.e. intersubjectively instituted invariants. It is the invariant structure of the experience of natural attitude, not the subject's trained judgment within the artificial experimental situation which is phenomenology's proper object of study. Subsection **3.6.2** formulates the task of

reconstructing how enactivism can develop the notion of intersubjectivity of scientific knowledge, including cognitive science.

It does not seem possible to find the full-blown thematization of this issue within the texts of enactivists. That is why I propose to reconstruct the interrelations between intersubjectivity, teleology and enaction as lived among the living systems with the help of combining enactivism with the idea of epigenetic rationality in Catherine Malabou's philosophy of plasticity. The common feature of both projects is their insistence upon the embodied, affective character of conscious life living within its own lived temporal scale. Additionally, as Natalie Derpaz referring to the 'intercorporeity' of the coupling systems, the relations of structural coupling, codependent arising, and dynamical emergence are primarily enacted not between the system and its environment but between two systems entering the 'I – Thou' relationships.

The former articulates the primary affective dimension of intersubjectivity which is considered in section **3.6.3**. The *affect* is defined by Malabou as a modification introducing the dynamics into the subject's life. Accordingly, this is the event in which experience leaves 'traces' on the subject's ontogenetic trajectories. In her conceptualization of affect, Malabou claims that 'self' is incapable of knowing itself as a substantial entity, for it can acknowledge itself only with affecting its own 'inner sense' – i.e. with the '*auto-affection*'. The system capable for auto-affection is not a phenomenologically transparent consciousness hosting its processes but a 'presence' accompanying each mental act of the individual.

But the appellation to auto-affection does not take into account the fact that the affect should be understood dynamically, as a part of the primary relation between 'self' and 'other' encountering each other as two living systems – which lays foundation for empathy, intersubjectivity and sociality. Malabou introduces the concept of '*hetero-affection*' which she defines in a dual way as 'the affect of the other' meaning the following: (1) the one who is affected in me is the other of mine, not myself – for in enactivism, neurophilosophy and deconstruction there is no

substantial ‘ego’ which can be referred to and affected as the object in the world; this is the dimension of my subjectivity which cannot be captured by myself and encompasses the local somatic-vegetative, immune and cognitive processes producing me as a global emergent ‘self’; (2) the other affected in me and the other affecting me are not identical. Hence, the source of affect in the primary encounter between ‘self’ and ‘other’ is the process of ‘*auto-hetero-affection*’.

The example of such process can be found in Varela’s later essay in which he reflects on his own experience of organ transplantation persuading him that the emergent, fleeting existence of the individual’s borders permeates all human experience. The ‘self’ of the somatic ‘locus of intimacy’ always needs coupling with other forms of life. This ‘other life’ can be understood as the other system co-present with me, orienting in the world and enacting the teleological behavior. The other living system can enter communication with me due to our common possession of the affective openness to the other.

I treat it as follows: the affective valences disseminated in the phase space of the teleological living system can reveal it its emergent status regarding to the other system’s inhabiting the same world and observing it. In order to acknowledge its emergent status this system should be structurally coupled to the other system. It means that instead of epistemological understanding of structural coupling of system and its environment defining the former’s behavioral repertoire I propose the ethical approach to this immanent fact of mutual dependence of two living systems in the world.

Subsection **3.6.4** develops this position by proving the illustration of the principle ‘life can be known by life’ in the light of the aforementioned conceptualizations of affect, articulating the situation of the existential-practical metamorphosis of the system coupled to another system. With this, I use Catherine Malabou’s concept of plasticity in order to conceptualize this metamorphosis. Plasticity in Malabou refers to the subject’s ability for radical transformation resulted in the contingent event of her encounter with other subjects or after the event affecting the subject. The subject’s plasticity means that the factual cognitive

structure of the subject is not necessary and unchangeable. Malabou shows that the ontogenetic trajectory of conscious life develops not according to a pre-established genetic program, but *epigenetically* – i.e. it involves both endogenous and exogenous contingencies. In this sense, Malabou's project is close to enactivism, for both see life and cognition as the process involving brain, body and environment. Plasticity refers to teleology which Malabou understands as 'the other necessity' linked to freedom and creativity immanent to life as such.

Consequently, when I encounter the living system, I cannot orient myself to the abstract principles of cognition which regulate not the lived world, but its abstract image articulated with the natural scientific language: the other system with which I am coupled is not a mechanism, and my openness to the coupling is not identical to a disembodied observation. For Malabou, communication with other life presupposes the epigenetic metamorphosis of those who enter this relationship. Encountering the other life, I cannot see myself as a 'thinking machine' or as 'neuronal self', for teleology of my ontogeny always already implies this transformation returning me back from the abstractions of the scientific image to immanence of the lifeworld. This transformation is neither adoption of a form given from outside (as it could be in the case of the contact between the living system and the transcendent observer) nor adaptation (as it could be claimed by the adaptationist biologists).

Plasticity in Malabou as a mark of *freedom*, including freedom for interruption of structural coupling and even enaction. In this sense the contingency which is appealed to by the naturalist metaphysicians (such as Meillassoux) is entrenched in the subject's organization as her ability to cease being herself, interrupt her cognitive-metabolic cycle and make the world and herself radically different. In order for the world and me to become absolutely other, there is no need for the intrusion of 'hyper-chaos': I, the living system, is immanently open to the alterity.

In **conclusions** I summarize the results of the third chapter. Having emerged as a consequence of the biological conception of consciousness within theory of autopoiesis, enactivism evolved as an implementation of phenomenological position

within the framework of cognitive science. Seeing cognition as enaction, later Varela approached the foundations of scientific knowledge proposing the idea of phenomenologization of natural science. According to the idea of 'selfless selves', the 'self' emerges as the effect of integration of immune, cognitive, somatic processes. Maintaining its status of a scientific project, neurophenomenology with its proposal of a dialogue between phenomenology and cognitive science tries to save the parity between philosophical and scientific approaches to consciousness. The later development of enactivism and neurophenomenology in the idea of experiential pragmatics led Varela and his colleagues to understanding that the problem of consciousness is not a scientific problem and needs an existential-practical dissolution, the epigenetic metamorphosis of the subject encountering the other life possessing freedom, creativity and teleology.

The **general conclusion** gives a brief extract of my study. As I tried to show in this work, contemporary phenomenology is capable of developing the 'middle' way between naturalism and transcendentalism being open to the productive dialogue with the scientific knowledge, at the same time maintaining the positive feedback relations between science and philosophical reflection. It means that the scientific study of consciousness, being the intersubjective practice, is itself conditioned by transcendental intersubjectivity, thus becoming the transcendental science *of* consciousness involving the existential-practical aspects of human life.

Publications on the thesis

The scientific papers published by the author in peer-reviewed journals indexed in the international databases of indexing and citation, as well as in the list of high-level journals of the National Research University Higher School of Economics:

1. Miroshnichenko M. Transcendentalism and the Arche-Fossil: How a Phenomenology of the 'Non-Given' Can be Possible? // The Philosophy Journal. 2017. Vol. 10. № 4. P. 104-120.
2. Miroshnichenko M. Not So Hard Problem: Francisco Varela on the Relations Between Consciousness, Nature and Life // Russian Journal of Philosophical Sciences. 2018. № 8. P. 144-159.
3. Miroshnichenko M. Phenomenologization or Naturalization? Between Philosophy and Cognitive Science // Epistemology and Philosophy of Science. 2019. Vol. 56. № 1. P. 65-80.

Other publications on the topic of dissertation:

1. Miroshnichenko M. Enacting the Contingency // Horizon. 2018. Vol. 7. № 2. P. 597-607.