

# **DIMENSIONAL ONTOLOGY - AN ANTHROPIC APPROACH AS A BASIS FOR UNDERSTANDING THE UNITY OF THE WORLD AND MAN**

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## **Abstract**

The report is devoted to the need to revise the prevailing philosophical position in science, which ignores the manifestations of spirituality and declares non-material phenomena an epiphenomenon. In the 90s of the twentieth century, the famous Russian logician B.V. Biryukov put forward the idea of the fourth world. This idea allows us to consider thinking, consciousness and their manifestations as the most important ontological reality. The author of the report complements Biryukov's concept with the idea of an anthropic approach, which proceeds from the need to recognize a person as an essential component of being. Within the framework of the anthropic approach and the idea of the fourth world, the author examines the idea of creating a strong artificial intelligence that is popular today. The author defends the position of the advantage of hybrid systems (human-machine) over artificial ones.

**Keywords:** Anthropic principle, Artificial intelligence, Concept of the fourth world, Hybrid intelligence, Multidimensional ontology.

## **1. Introduction**

The nature of science became really clear to us only in the middle of the twentieth century, thanks to the epochal works of the postpositivists: K. Popper, M. Polanyi, T. Kuhn, I. Lakatos, P. Feyerabend and others. A special place in this series is occupied by T. Kuhn, who in his famous book "The Structure of Scientific Revolutions" showed the fallacy of the cumulative concept of science. Only in certain historical periods is science represented by a strictly defined view of the world (worldview), within the framework of which general ideas (cumulative process) are clarified using highly specialized (specific) research procedures. Within a certain field of research, there may be several competing groups, each of which claims to recognize its point of view as the only correct one. [2, p. 5] For the rational reconstruction of such points of view, none of which is more scientific, the American researcher began to use the term paradigm. The root of a scientific paradigm is a set of philosophical truths that are self-evident to a researcher, and its tree is a scientific theory (model) that grows out of it. Not every philosophical point of view is capable of generating a scientific paradigm, i.e. becoming the basis for normal scientific activity (normal science). A kind of conceptual "neoteny" often arises: philosophy remains in a "juvenile" form with no prospects for scientific specialization.

Modern research is mainly based on a set of one-dimensional ontologies that result from the convergence of materialism and positivism. Materialism offers an optimistic view of cognition, while positivism provides a "weapon of destruction" to metaphysics, which is excluded from the field of research. In general, the described position can be described as eliminative empiricism. Logically and methodologically, it is characterized by inductivism and verificationism, the vulnerability of which was pointed out by postpositivists, starting with K. Popper. Potential falsifiers (according to Popper) here find themselves outside the horizon of observation of the research program, which creates the illusion of its success.

The "imitation game" proposed by A. Turing created an additional field for replacing the study of the surrounding world with the solution of linguistic puzzles, which led to the emergence of a linguistic veil between the scientific community and the field of glaring anomalies. The famous Russian logician B.V. Biryukov proposed a way out of this situation at the end of the twentieth century.

## **2. The Concept of the Fourth World**

The ideas of the fourth world go back to B.V. Biryukov's reflections on a set of anomalies that cannot be explained within the framework of eliminative empiricism. In the 70s of the twentieth century. He participated in the preparation for publication of some issues of the Russian-language version of the international journal Proceedings of the Institute of Electrical and Electronics Engineers (USA), translated and edited a series of articles on experimental studies of extrasensory phenomena by American physicists from Stanford University. Later it became obvious that serious intellectual work was required to find adequate conceptual foundations for explaining

such phenomena. This is how several reports made by Biryukov at All-Russian scientific conferences appeared. In them, the author set the task of revising the modern picture of the world, suggesting using the concept of the fourth (spiritual) world, the existence of which was indicated by the aforementioned anomalies.

The idea of "three worlds" goes back to the philosophy of the German logician G. Frege and is reflected in the semantic triangle. Later, Karl Popper gave his own interpretation, proposing the empirical concept of "three worlds". Biryukov, who knew the works of Frege and Popper well, saw insufficiency of both logical and empirical concepts of the "three worlds", so he decided to propose the idea of a "fourth" world as a spiritual one [3].

A critique of the modern empirical approach to the concept of "three worlds" was undertaken in our joint work with Biryukov on the work of another Russian logician, V.K. Finn, who in his book «Intelligent Systems and Society» attempted a rather narrow interpretation of logic as focused on intelligent systems that combine heuristic approaches with automated algorithmic procedures. Such an interpretation (logicism), reflecting the desire for the objectivity of knowledge, deprives a person of subjectivity and transfers it to automata [1].

As Biryukov and I wrote, the illogical precedes the logical, but the latter does not completely overcome it. Myth often underlies rational constructions, as was the case with Descartes and Leibniz. Later, A. Turing proposed an "imitation game" based on his own myth about the identity of man and machine.

### 3. Multidimensional Ontology

It would be a mistake to simply borrow the concept of the spiritual from religious practice. Science requires the rationalization of this concept within the framework of a meaningful ontology. The most complete argument in favor of such an ontology was developed by the outstanding psychologist of the twentieth century Frankl. His distinction between somatogenic, psychogenic and noogenic phenomena and their projections into other dimensions allows him to create a conceptual (ontological) basis for an interdisciplinary cluster of sciences, actively using the most productive theories. For example, it becomes possible to use the term "interface" as a functional analogy of the brain. The analogy with the interface allows us to explain the special somatic status of the brain. The latter should be considered as a means of transferring noogenic and psychogenic effects on the body and the organization of behavior, as well as somatogenic effects and information from the environment to the field of mental and noetic. Being an integrator of somatic processes and functions, the brain ensures their subordination to the ontological unity of the individual.

Obviously, thinking in this case is understood as an immaterial process. This creates significant explanatory opportunities for a number of psychological theories and enhances their scientific status. Such theories include, for example, the theory of accentuated personalities by the German psychiatrist Karl Leonhard, which is little known to English-speaking researchers.

It is not enough to apply multidimensional ontology only to people. It is necessary to see the place of man himself in the world. The connection between the ontology of man and the ontology of the world will be provided by the anthropic principle.

### 4. The Anthropic Principle

The anthropic principle as a universal ontological principle (within the framework of global ontology) in the twentieth century was discovered in a certain manifestation as an anthropic cosmological principle. The latter was officially proclaimed in B. Carter's report "The coincidence of large numbers and the anthropological principle in cosmology" at a symposium dedicated to the 600<sup>th</sup> anniversary of the birth of N. Copernicus in Krakow in 1973. It is believed that the anthropic principle has already been used by the Soviet scientist G.M. Idlis since 1957.

The spread of the anthropic cosmological principle in the scientific community is sometimes called the anti-Copernican revolution, and therefore it is very symbolic that in its weak version it points to the connection of the privileged position of man in the universe with the conditions of his existence as an observer. In the strong version, the anthropic principle allows for the appearance of an observer in connection with the existing parameters of the universe. In the final version, the anthropic principle considers such an appearance necessary, and in the formulation of the "principle of participation" it asserts the necessity of the existence of an Observer for the appearance of the Universe. From the variety of interpretations of the anthropic cosmological principle, it is possible to deduce the position of the necessary connection between the Universe and the human observer. In this interpretation, evolution can be considered as a purposeful process in which a person is not an accidental, but a necessary component of a single world.

The Soviet engineer-psychologist V.F. Venda, relying on the general theory of systems, was able to solve the problem of mutual adaptation of "engineering, psychological and aesthetic methods, achieving their harmony, taking into account the requirements of efficiency and humanization of human-machine-environment systems" [4]. Later, he came to the conclusion that this law can be applied to a global ontology in which a person occupies

an important place. Thus, the law (principle) of mutual adaptation, along with the anthropic principle, assumes that we look at the universe and man as a single whole. However, the variability of human behavior associated with the peculiarities of his self-organization does not ensure unconditional harmony.

Cognitive activity of a person is necessary for self-organization. Having understood where to move, a person should make efforts to achieve this goal. If the goal is clear in one way or another, but no effort is being made to achieve it, this situation is no better than if the goal were unclear. In both cases, we are dealing with a maladaptation strategy.

In our opinion, the principle of anthropicity indicates the coherence, or potential adaptability, of the observer and the Universe, as well as the nature of the relationship between them – the environment, or the ecological aspect. The parameters of the universe determine the environment in which human existence is possible. Thus, objective reality can be considered as a system of spaces, forms and environments inscribed into each other. The central place in this system is occupied by the ecumene, a place suitable for the observer's life. Any attempts by a person to go beyond the limits of the ecumene require special efforts to maintain his vital activity and protect him from harmful influences, which means that the original concept of the oikos - the house - looks not just like a successful metaphor, but an integral characteristic of the human environment. On the other hand, the ecumene is a privileged place from which observation is conducted, and the observer can explore the world. For an anthropic Universe, it seems quite reasonable to accept as an ontological assumption the thesis of the mutual potential adaptability of the world and the observer (this is a possible interpretation of G. Leibniz's idea of pre-established harmony).

## 5. Hybrid Intelligence

Based on P.K. Anokhin's theory of the functional system, V.F. Venda identifies the specifics of the processes of mutual adaptation in living and inanimate systems: the development of any living system is a process of in-depth multilevel adaptation (extended reflection according to P.K. Anokhin). The higher the organization of a living system, the more clearly the proactive nature of mutual adaptation is manifested. Within the framework of this idea, Venda formulated a transformational theory of learning (cognition), and within its framework, the concept of hybrid intelligence. The latter was considered by the author as an alternative to the concept of artificial intelligence.

In the transformational theory of cognition, the effectiveness of the system is described by a bell-shaped function, i.e. it has a nonlinear character. Maximum efficiency is always determined by the maximum consistency (mutual adaptation) of factors (elements, components and the system as a whole). The effectiveness of AI systems within the framework of their autonomy will also be described by a bell-shaped function. It follows from this that the complete autonomy of AI, if necessary (after reaching the threshold value), will lead to its degradation. On the other hand, AI is not a fully autonomous system. It is the result of some systemic activity and is located inside a hybrid system. Suffice it to say that AI is now implemented in hardware mainly through the creation of computer clusters serviced by specialists and consuming a huge amount of electricity. The effectiveness of such systems cannot be evaluated solely (!) in terms of the speed and even the quality of the local task.

## 6. Conclusion

- 1) To understand a person and his place in this world, a multidimensional ontology is necessary.
- 2) The strategy for the development of human society in the modern global world should proceed from the privileged position of man as an observer and an active participant in the mutual adaptation of the components of the universe.
- 3) It would be wrong to rely on the total replacement of people as observers and organizers of the process of mutual adaptation by artificial intelligence systems.

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#### Comments

Prof. Petrunia's work reported in this paper is highly commendable. His concluding statement "The strategy for the development of human society in the modern global world should proceed from the privileged position of man as an observer and an active participant in the mutual adaptation of the components of the universe", is one form of the declaration due to Ancient Indian Philosophy, which states that the universe (meta verse) is the self-regulated conglomeration of all physical and philosophical entities and every entity observes itself and the environment and undergoes transformation.

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