



УДК-165.

**THE PROBLEM OF INNOVATIONS IN THE COGNITIVE SPHERE AND  
HOLISTIC STRATEGIES OF COGNITION  
ПРОБЛЕМА НОВАЦІЙ ПІЗНАВАЛЬНОЇ СФЕРИ ТА ХОЛІСТИЧНІ СТРАТЕГІЇ  
ПІЗНАННЯ**

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***Abstract.** The problem of knowledge is one of the most pressing problems of the philosophy of science in the 21st century. This is due, first of all, to the peculiarities of the development of scientific and technological civilization and the style of thinking generated by it. The article discusses the cognitive and explanatory possibilities of holistic epistemology as an opportunity for the development of a holistic mentality and a more harmonious socio-cultural space.*

**Keywords:** epistemology, holism, mentality, rationality, analytics

**Introduction.**

We all live in a very difficult time – a time of change. Changes occur in almost all types of human activity, and these changes do not always lead to improvement or progress, rather, on the contrary, there is a whole fan of global problems that need to be solved urgently, and not by individual countries or regions, but by the whole world. In this regard, there is a need for humanity to be imbued with the idea of the unity of the world, especially since at the fundamental level, as physicists explain to us, nature is one and all the boundaries in it are very conditional and only reflect the consistent approach of social consciousness to the truth. If nature is one and integral in its essence, then the methods of cognition must be just as integral. Therefore, an urgent issue of modern epistemology should be the expansion of cognitive strategies, which can contribute to the expansion of the worldview field not only of young scientists, but also of a wide range of European scientific intelligentsia.

**Results.**

The existing methodology of the scientific approach, which was based on rationalism and the analysis of the complex by decomposing it into parts, throughout the twentieth century showed that when studying the integral properties of a system, it is not able to describe them. This happens because any, even imaginary, operation of separating an element means the destruction of integrity and the loss of a number of qualitative properties, which leads to the fragmentation of knowledge, and with it the fragmentation of the worldview.

This is the impasse in which the technogenic civilization now finds itself with its cult of scientific and technological progress, with its attitude to nature as a faceless, and sometimes even as a hostile environment, with its individualism as the basis of society, with its social domination of the financial oligarchy and many other attitudes of thinking and perception, which actually give rise to the existing fan of global problems.



Scientists and philosophers see a way out of this impasse in different ways: some advocate changing a person in order to improve social life, others advocate changing social life in order to improve a person. According to the holistic concept, life is one and every being (holon) is characterized not only by the subtlest internal homeostasis, but also by elusive and innumerable connections with all other holons and with the entire Whole. Man as a thinking creature plays an important role in this finely tuned interaction of everything with everything, which is why it is so important for him to have an adequate worldview and attitude that can be formed by means of modern science and education.

An adequate worldview should be understood as such a system of views on the world, in which there are clear and unambiguous answers to the most intimate questions of mankind: Who are we? Where are we and why? Where do we come from and where do we go then? Here we can add the famous Kantian questions: What can I know? What can I hope for? and What should I do? These are eternal questions, and the answers to them must be given by a new epistemology.

But, there are problems here. First, how dramatically can the methods of cognition change within the old paradigm? Secondly, to what extent is our scientific establishment ready to accept innovations in the cognitive sphere?

The picture of the world, as it is defined by experts, is a system of images and connections between them, visual representations of the world and the place of man in it, of the relationship of man with reality, of his role and his place in the world, of the spatial and temporal sequence of events, their causes, significance and goals. A person acts based on his picture of the world. She combines all the images and concepts known to her into a single global image, which contains everything she has encountered in life. In fact, this is the most complex mental formation that we form from early childhood, it is a multi-layered structure that stores all the knowledge about the world around us in the form of memories or images.

The picture of the world, as a rule, is formed in the process of upbringing and education with the use of certain cognitive strategies. In modern science and education, behind the seeming pluralism of methods of cognition, there is only one - the method of trial and error. According to Karl Popper, expressed in his book *Logik der Forschung* (2002), the method by which all problems are solved is usually the same – it is trial and error.

The method of trial and error has been known to mankind since prehistoric times, it has always been used within the framework of traditional, more precisely, everyday logic, where the law of exclusion of contradictions works, which says that two statements that contradict each other cannot be true at the same time. However, this method has always been good only when applied to a single, physical, three-dimensional reality, which is structured according to the principle of "or either" and the third option is really not given.

The application of this method to a psychic or spiritual reality always leads to a contradiction on the part of the researcher, who a priori denies the existence of realities other than the physical. At the same time, a negative attitude to the contradictions that arise in the process of constructing scientific theories leads to unambiguous conclusions, to the simplification of the object of study, be it the World or the Man.



The imperfection of the existing scientific methods of cognition is especially striking when trying to explain the phenomena of quantum physics. For example, the famous physicist John von Neumann, realizing the fact that the quantum world does not fit into Aristotelian either-or logic, invented three-valued logic. To the two options proposed by Aristotle: "true" or "false", the scientist added "possibly" (Von Neumann J., 1961). Some physicists believe that von Neumann solved "all" paradoxes, others consider three-valued quantum logic to be nothing more than a formalism or trick that does not clarify the uncertainty of quantum events, while transactional psychology shows that perception always begins with a state of "maybe."

The dominant epistemology in modern science is based on one-dimensional logic or the same one-dimensional dialectics. The picture of the world, formed within the framework of this epistemology, has the following characteristic features: the assertion of a certain objective reality, independent and opposite to man; the properties and characteristics of this reality are encoded in immutable physical laws; A person can obtain reliable (albeit imperfect and experienced) knowledge about reality by strictly adhering to the objective procedures and norms proposed by the scientific method.

A number of works by both Western and domestic philosophers are devoted to the criticism of this classical episteme, as well as attempts to build knowledge on new principles. The ontological and epistemological foundations of classical science are questioned. Such researchers as I.Z. Dobronravova, V.Z. Lukyanets I.M., I.M. Predborskaya, V.A. Ryzhko substantiate the multidimensional, non-linear approach to the study of science and man as an "epistemological turn", which causes a revision of the way of obtaining knowledge, a revision of the foundation itself, as well as the attitude to the bearer of knowledge, a turn to "personal" knowledge.

Epistemological "manifestos" are also put forward by feminist researchers - G. Brandt, E. Vasilyeva, V. Haydenko, S. Zhrebkin and I. Zhrebkina, E. Zdravomyslov and A. Temkina, A. Kletsyn and I. Kletsyna.

All these attempts to construct new knowledge, of course, expand the possibilities of traditional, classical epistemology, but they also suffer from limited methods of cognition for a number of reasons: the Eurocentric nature of scientific interests, the limited cognitive capabilities of a person within the framework of a single, three-dimensional reality, and the use of formal-logical attitudes.

Meanwhile, in ancient culture, for hundreds, if not thousands, of years, three variants of knowledge were known. The first, the simplest, was actively used by Aristotle and admirers of his talent - formal-logical - with his law of the excluded third. It is also the basis of all other methods of knowledge used in both the natural sciences and the humanities, including synergetics with its "nonlinearity", feminist epistemology with its masculine and feminine types of being and the ideology of emancipation, and many others discussed in Western philosophy of science.

The second variant is known to us from Plato's dialogues and bears the appropriate name – dialectical. In contrast to Hegel's one-dimensional dialectic with its thesis-antithesis-synthesis triad, Plato's dialectic is essentially multidimensional, because it admits all kinds of human experience, up to and including religious-mystical experience, all kinds of knowledge, including mythological, and all possible metaphysics.



Reading Plato's dialogues, one can trace the train of thought of the philosopher, who moves in a circle around the object of contemplation with the help of a dialogue between the presenter and the listeners. More often than not, Socrates is the leader in Plato's work, and it can be seen how he achieves results with a constantly renewed 'concentric attack', moving towards the object in narrowed circles; as a result of summing up or integrating a combination of single impressions received from different points of view, A multidimensional, multifaceted impression is formed until the last, conceptually incomprehensible stage of this concentric approximation, the subject cognizes. is identified with the object of knowledge. From this experience is born a symbol, a guiding sign comparable to the symbolic language of mathematics, and a paradox that transcends itself.

The problem with this way of thinking is not to fix the mind according to the system of classical logic, according to which no two opposite statements can be true at the same time and there is no third possibility, but to keep the mind mobile, that is, to change the point of view by allowing the mind to make circles around the object it knows. This way of thinking by no means abolishes conventional logic, as well as the multidimensional logic of higher mathematics, but it assigns its place to each of these types of logic.

And, finally, the third variant of cognition, or rather the experience of knowledge, is mystical. Mysticism is a complex spiritual tradition that combines different, sometimes contradictory tendencies. It has a solid prognostic potential and ideological condensation. The mystical consciousness, with the help of intuition, tries to grasp the primordial unity of all things. It proceeds from the premise that through intense "communion with God" it is possible to obtain from Nature certain mysteries to which science and its corresponding type of rationality advance analytically and experimentally.

These three variants of cognition of the World and Man, which were used in ancient cultures, correspond to the three planes of Being: physical, psychic and spiritual.

The fact that our physical reality is not the only reality was also the first to be spoken of by physicists of the last century. According to David Bohm's concept, the world as we know it is only one aspect of reality, its "manifest" or "unfolded" order. The matrix that gives rise to it is a "hidden" (implicit) order, that is, it is a realm invisible to us, in which time and space are collapsed. In this way, consciousness and matter appear to be interconnected and interdependent, such that they have no causal relations at the "explicit" level of reality. They are nested within each other projections of a higher reality, which is neither matter nor consciousness in its pure form (D. Bohm, 2002).

Successful experiments gave Bohm's theory solidity, and the fractal geometry discovered by Benoit B. Mandelbrot (1977), describing the ordered chaos of nature, also demonstrated the "holographic" principle of infinite nesting of self-similar structures into each other on the basis of very simple mathematical relations.

Thus, a new picture of the world, or holographic, as it is sometimes called, can and should radically change and complement existing cognitive strategies. Here, as we can see, the poles of the ontological, anthropological and epistemological converge,





because we know this reality based on our ideas about it. At the same time, multidimensional or holistic dialectics can become a unifying method. The mentality formed by such dialectics can also be described as holistic.

Currently, the carriers of this type of mentality, as we learned from a study by a group of American psychologists led by Professor Richard E. Nisbett of the University of Michigan (Richard E. Nisbett, 2003), are representatives of the East Asian region, where it is obvious that the ancient tradition of knowledge has been preserved as much as possible. Researchers have come to the conclusion that East Asians have holistic thinking, they take into account the entire semantic field and attribute almost to it the causes of events. They make comparatively little use of categories and formal logic, and rely on "dialectical" thinking. At the same time, Western people are more analytical, they are focused primarily on a specific object and on the categories to which it can be attributed. To understand the behavior of an object, they rely on rules, including the rules of formal logic. The types of cognitive processes described are part of the broader naïve metaphysics and implicit epistemology that is characteristic of representatives of these cultures.

I was most interested in the last point about the influence of metaphysics and implicit epistemology on the cognitive procedures that people use to solve certain problems. It follows that our ideas about the world as a whole, about our place in this world, and about how we can know it and ourselves, that is, our thinking strategies, are really shaped by a certain culture and are not universal, as many Western scientists and philosophers have believed since the seventeenth century.

These are, firstly, and secondly, a holistic or holistic picture of the world and a holistic epistemology form respectively a holistic type of mentality, for which complexity means dynamism and constant variability, and the belief in instability and constant variability leads to the fact that the habits of categorization and the search for universal rules lose their meaning; contradiction seems inevitable because everything is constantly changing and opposing factors are constantly coexisting; interest in specific objects and events seem to be more useful than searching for abstractions.

Thus, the popularization of holistic epistemology can contribute to solving the problem of obtaining holistic knowledge through the discovery of the unity, completeness and concreteness of being. The highest degree of knowledge can only be knowledge-life, where the subject does not oppose the object, but knows the object because it is merged with it in its very being, where being and knowledge are one and the same.

The fundamental identity of being and cognition is presupposed by the very nature of the holistic method of cognition and must be considered as the unity of the knowable and the comprehensible, the knowable and the objective sense that is known. That is why the correlate of integral knowledge is not cognitive subject-object relations. The starting point of holistic thinking is the inseparability of subject and action, the activity of the subject and what his activity is directed towards: it inspires, not explains.

O.F. Losev (O.F. Losev, 1992) called such thinking "incorporated thinking", that is, thinking as a whole, where there is no categorical division, there is no difference between "general" and "individual". It is conceived as a sensuous-material phenomenon that is capable of being something general and giving rise to everything



specific and individual; It is able to transcend the immanent world into transcendence. Such cognition is more direct than forms of cognition, which stand out for the classical theory of knowledge, since they are beyond the difference between object and subject. It is both a means of cognition and cognition itself: being and cognition of being become two inseparable aspects of being in its entirety.

### Findings.

Modern socio-cultural reality as heterogeneous, changeable, multivariate, plural, embodies new, non-traditional, alternative, sometimes provocative approaches that allow us to move away from the unambiguous definition of reality and man and abandon the concepts of linearity and reductionism in favor of harmony, integrity and diversity.

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**Анотація.** Проблема пізнання є однією з найактуальніших проблем філософії науки у ХХІ столітті. Це пов'язано, в першу чергу, з особливостями розвитку науково-технічної цивілізації та стилем мислення, породжуваним нею. У статті розглядаються пізнавальні та пояснювальні можливості холистичної епістемології як можливості розвитку холистичної ментальності та більш гармонійного соціокультурного простору.

**Ключові слова:** епістемологія, холізм, менталітет, раціональність, аналітика