**How to explain the failure to explain consciousness**

“The processes of life and thinking require for their description completely different concepts and ideas than the physical and chemical processes with which they are associated.” M. Born

**1. Problem**

Modern ideas about consciousness have a long history, which we will not touch on. I will only note that the concept of “consciousness” is one of the key concepts of philosophy, and the question of its nature is one of the ancient ones known to us from Greek philosophy. And although the Greeks do not have the concept of “consciousness”, but there are a number of terms corresponding to it: “nous” - the creative mind, “psyche” - the soul, “logos” - the mind, “eidos” - the idea.

Turning to modern attempts to solve the problem of consciousness, one of the famous Russian philosophers, Doctor of Philosophy, Professor of Moscow State University David Dubrovsky, who proposed his theory of consciousness based on the informational approach. And here, according to Dubrovsky, there is a fundamental difficulty: how to fit consciousness as a subjective reality into the physical picture of the world? In this case, there is a “failure in explanation”, which, according to David Dubrovsky (2018), is as follows.

“The phenomena of subjective reality are described in terms of socio-humanitarian knowledge - the concepts of meaning, content, will, faith. And brain processes, say - nerve impulses, their location, nerve networks, electrical processes, etc., are described in physical terms.

 There is a gap between the physical and socio-humanitarian descriptions - there are no direct logical connections between these systems of concepts. Some intermediate link is needed that would correctly cover these disparate systems of concepts”.

For most of the 20th century, psychologists studied behavior from an objective standpoint, neuroscientists studied what happens in specific areas of the brain, but no one explained consciousness - only that it is, and it is subjective. So they thought that there could be no science of consciousness in principle.

Today, everything has changed and the central question for neuroscience is the question: “why should all physical processes in the brain be accompanied by consciousness”? Moreover, physical properties began to be recognized for consciousness, which so far remain unclear. Therefore, there is an active search for a theory in which consciousness would be reduced to physical or functional processes. However, at present there are no reasonable answers to this score, just as there is no solution to the main difficulty that interests me, what is called the “failure in explanation”.

I am impressed by the approach of Western philosophers, in particular one of them - David Chambers (2014). According to him, for a long time, he “beats his head against the wall in search of a theory of consciousness in purely physical terms that would work”. But such a theory, the philosopher continues his thought, did not work out for anyone “due to simplified explanations in physical and neurobiological terms”.

To a large extent, this is due to the chain of explanations to which we are accustomed, where physics explains chemistry, chemistry explains biology, biology partially explains psychology. But consciousness does not fit into this picture. On the one hand, it is a given that we are conscious, on the other hand, we are in a kind of dead end, because we do not know how to adapt consciousness to our scientific vision of the world, how to get rid of the “failure in explanation”.

David Chalmers believes that consciousness is a kind of anomaly, in the face of which, radical ideas may be needed. “I think we need a couple of ideas that initially seem crazy before we can scientifically substantiate consciousness” (2014). And the philosopher offers to comprehend two crazy ideas, which, in his opinion, have a future.

The first crazy idea: consciousness is fundamental - it is a kind of fundamental building block of nature, which opens the way for science. “Next, it is necessary to study the fundamental laws that govern consciousness, the laws that connect consciousness with the rest of the basic principles: space, time, mass, physical processes ... We do not yet know what these laws are, but this is what we are looking for.”

The second crazy idea: consciousness is universal. This means that “any system is conscious to some extent. This vision is sometimes called panpsychism: “pan” means “everything”, “psycho” means “mind”. All systems are conscious: not only humans, dogs, mice, flies, but even Rob Knight's microbes, elementary particles. Even the photon, Chalmers admits, has consciousness, as “some element of primitive subjective sensation, some primitive precursor of consciousness”.

Recently, the neuroscientist Giulio Tononi, continues David Chalmers, took up this theory and painstakingly refined it in accordance with mathematics. He introduced a mathematical unit of measure, which he called Phi, to measure the amount of information integrated into the system, because he suggested that Phi is interconnected with consciousness.

“So, in the human brain, the volume of integration of information is incredibly large - a high degree of Phi, a lot of consciousness. In mice, the average degree of integration of information is still very significant, a fairly significant level of consciousness. But if you go down below - to worms, microbes, particles - the volume of Phi decreases. Decreases, but still not equal to 0. According to Tononi's theory, a non-zero degree of consciousness will be maintained all the time. In essence, he proposes a fundamental law of consciousness: a high level of Phi is a high consciousness”.

Panpsychism, says D. Chalmers, can help us integrate consciousness into the physical world, because “consciousness does not hang out outside the physical world as something superfluous. It is at its core”… We would like “the theory of consciousness to allow us to see consciousness as an integral part of the natural world. It may be difficult for us yet to figure out what kind of theory this would be, but without it would not be possible to say that we fully understand consciousness.”

For all that, the problem of consciousness is not only a concrete-scientific, but also a concrete-universal philosophical problem concerning the world as a whole. Therefore, conscious experience is not just one or another part of the natural world - it is its generalized phenomenon, generated by a multitude of physical interactions, processes, and energies lying in plain sight. “Whether consciousness itself is physical, or whether it simply accompanies physical systems” is an unclear question. The answer to it largely depends on our thinking.

 **2. Bridge over the "explaining gap"**

Being a function of the brain, consciousness is formed under the influence of diverse processes that take place between a person and the world around him. This communication contributes to the growth, enrichment and development as a subjective experience, i.e. consciousness, and the brain itself, and its higher functions.

What does it mean to reveal the “explaining gap” of consciousness? Where does it come from, how does it relate to the physical world? And in general, what exactly do we have to explain with the help of language?

To answer the above questions, in my opinion, we must study not the brain, but the language of natural interactions, which determines our relationship with it. The brain translates them into a form understandable for the body - into a variety of conscious experience: color, smell, taste, pain, tactile experience, emotions, etc. Therefore, our task is to comprehend the language of nature, with the help of which the signified communication takes place.

Humans also invented languages. In his book The Philosophical Foundations of Physics, Rudolf Carnap (1966) collects not only the concepts of science, but also the concepts of everyday life into three main groups of concepts: classificatory, comparative and quantitative. At the same time, “comparative concepts” are more effective for expressing information, according to the scientist. They occupy an intermediate position between classificatory and quantitative concepts.

“I,” writes R. Carnap, “consider it desirable to pay attention to them, because even among scientists the significance and effectiveness of such concepts are often underestimated….

We should never underestimate the usefulness of comparative concepts, R. Carnap continues, especially in those areas where the scientific method and quantitative concepts have not yet been developed ”(1966).

I will say right away that the language of comparative concepts is most consonant with nature, since it reflects natural and social ties. Dialectics tried to streamline their typology, placing the concept of “opposite” between the concepts of “identity” and “difference” within the framework of a certain universal Hegelian paradigm. But it didn’t work out, because, striving for the universal, philosophers included all possible aspects of natural and social processes in the concept of “opposite”, which in Hegel’s teaching was denoted by the term “concrete identity”. Therefore, the concepts of dialectics, even in their current state, carry a high degree of uncertainty, which does not allow obtaining theoretically correct solutions. Because of this, dialectics could not become a rigorous science.

Although the language of quantitative concepts finds application in the mathematical theory of Giulio Tononi, as mentioned above, the matter has not yet reached the point of using mature mathematical theories.

In order to explain consciousness, the polysemantic language of classificatory concepts is also unsuitable, with the help of which it is impossible to exclude many meanings. However, researchers of consciousness and the brain stubbornly adhere to classification concepts, due to the lack of other concepts that are adequate to the tasks.

“A lot of alternative terms and expressions,” writes David Chalmers on this subject, designate approximately the same class of phenomena as “consciousness” in its main sense. Among them are “experience”, “qualia”, “phenomenology’, “phenomenal”, “subjective experience” and “what it is like”. In addition to grammatical differences, the differences between these terms are mostly reduced to semantic shades” (2014).

Having fallen under the influence of the crazy ideas of D. Chalmers, but not being a specialist in the field of consciousness, I turned out to be the one who, at my own peril and risk, decided to present another fundamental, universal and crazy idea. Its essence is that it is necessary to find a language that can unambiguously reflect the most general natural and social processes, a language that will bridge the gap in explaining how to attach consciousness to the physical world.

For the point is not that we explain badly, but that the language of classification concepts is completely unsuitable for our purpose. While for understanding and explaining consciousness, another language is needed that reflects the regularity and reasonableness of nature. And such a bridge over the “failure in explanation”, in my deep conviction, can be the language of comparative concepts proposed by Yuri Rotenfeld (1991).

**3. Concrete-scientific and concrete-general comparative concepts**

Today we can talk about the deepest crisis of humanitarian thinking, generated by the ambiguity of the concepts it uses. As a result, not only the understanding of reality and many of its meanings is blurred, but communication between representatives of the humanities and natural sciences is also difficult. This language is not amenable to correction because the most general of the concepts included in it often do not correspond to any facts. This also applies to the concept of “consciousness”.

We are talking about the language of classification concepts, with the help of which something is called, it is capable of reflecting only the qualitative diversity of the world, while the scientific display of processes, the designation of their types, is inaccessible to it. Moreover, it became obvious that eliminating the shortcomings of this thinking by means of this thinking itself is impossible.

Thinking with classification concepts dominates in the social and humanitarian disciplines, in which another type of concepts accessible to understanding is only partially used - concrete scientific comparative concepts of various types, which manifests itself in modern natural sciences. Moreover, well-known comparative concepts of a gradation type, such as long and short, rich and poor, and similar concepts, act as the beginnings of all specific sciences. Taking less as a unit of measurement, we can think of more as a ratio between quantities. Numbers, according to Rothenfeld (2021), are a concrete-scientific (mathematics) expression of comparative concepts of a gradational type.



**Examples of comparative concepts of gradation type**

If gradation is considered not from the point of view of its poles, not as correlated, but from an intermediate position, we learn the relationship of opposites that determine the energy of being.

More complex relationships that determine cyclic processes, Yuri Rotenfeld (2021) calls comparative concepts of an orthogonal type. These are potential and kinetic, electrical and magnetic and similar concepts, the set of which reflects the ratio of the sides that are separated from each other in a cyclic process not by one hundred and eighty degrees, as is the case between opposites, but by a quarter of the period, i.e. ninety degrees.

 **Concrete sciences Philosophy**

**Specific-scientific** comparative **Specific-universal** comparative

concepts of orthogonal type: concepts of orthogonal type:

*day and evening, winter and spring, "Orthogonal Pythagoras"* and

*north and east, slavery and feudalism, "Orthogonal of Heraclitus".*

*fathers and sons, exchange and use* Each of these concepts synthesizes

*values, electricity and magnetism* all concrete-scientific comparative

and more other. concepts of orthogonal type.

**Examples of comparative concepts of orthogonal type**

The language of specific scientific comparative concepts is the most optimal variant of the scientific language, suitable for unambiguous expression of meanings. To the same extent, it can be used both in the natural sciences and in the humanities. And although specific scientific comparative concepts of different types have not yet been collected into separate groups, it can be said with certainty that the use of these mental means as the beginnings excluded ambiguity in natural science knowledge and, as a result, led to their rapid development. Hence the split between social-humanitarian and natural-science knowledge, which can be overcome only through the use of specific scientific comparative concepts in the humanities.

The transition from reason to wisdom is carried out at the expense of the third type of mental means - concrete-universal comparative concepts of various types (2021).

Concrete-scientific and concrete-general comparative concepts of different types raise reason thinking to two higher levels - to the level of intelligence and the level of wisdom, understood only as “knowledge of the general”.

Moreover, concrete-scientific comparative concepts make it possible to transfer humanitarian disciplines from the level of opinions to the level of concrete-scientific objective knowledge, as is the case in the natural sciences, while concrete-general comparative concepts, incorporating similar concrete-scientific concepts of various types, raise philosophy to the level of cumulative verifiable rigorous science.

As a result, according to Rothenfeld (2021), we have a universal method of ascent from reason to intelligence and wisdom, characterized by the ascent from a multitude of subjective opinions to unambiguous knowledge through the use of not only classificatory, but also concrete scientific and concrete universal comparative concepts in the thought process. In one case, we have a variety of specific sciences, including the humanities. In another case, metaphysics as “the science of first causes and principles”, as Aristotle understood philosophy.

**4. Solution: panlogical picture of the world and its connection with consciousness**

In fact, we are talking about the revival of dialectical thinking, the conceptual apparatus of which - comparative concepts, is given in book “Non-Classical Dialectics” by Professor Yuri Rotenfeld (1991). Supplementing it with a number of unambiguous mental means , he decomposes the concept of “concrete identity” used by Hegel into many other concepts – “concrete differences”, one of which was the relationship of opposites, understood unambiguously as “excess” and “deficiency” relative to the intermediate state.

The next, more complex comparative concept is also unambiguous. As noted above, it includes the relationship of not two, but four sides - two pairs of opposites, which Rotenfeld calls “the relationship of orthogonal tendencies” that determine natural and social rhythms, fluctuations, exchanges, waves. Whence it follows that the trigonometric functions sine and cosine are a concrete-scientific (mathematics) expression of a concrete-universal (philosophical) concept of “orthogonal”.

Further, there is an even more complex relation - this is the relation of additional tendencies that determine the unity of wave and corpuscular (inertial) properties. In addition, other increasingly complex processes are distinguished, which are designated by the comparative concepts of “additional” and “similar” (1991).

Here is a cumulative series of unambiguous concrete-universal (philosophical) comparative concepts that fills the gap between the ability to calculate (the upper, metaphysical series of basic concepts) and the ability to understand (the lower, dialectical series of basic concepts):



**Panlogical picture of the world**

To understand consciousness, one needs such thinking that could reveal the relationship between the mental and the physical, and this becomes possible only when its concrete-universal basic concepts are able to reflect natural, social and biological processes from the same objective points of view for all observers.

Apparently, it should be mentioned here that, like us, all our smaller brothers, are able to identify and distinguish between objects of the surrounding world (A and non-A), are able to correlate more with less, perceive opposite influences in the form of good, bad or neutral emotions and feelings, which determines the basis of consciousness.

Antonio Domasio also speaks about this, emphasizing that reliance on opposite feelings is an integral part of the functioning of the living: “... this is how simple control is based on pain and pleasure - a necessary tool for all living organisms, without which they would not have reached such heights. This is critical. My vision of the origins of the emergence of the mind and mental experience, and ultimately the formation of consciousness, implies the existence of mechanisms that generate feelings - positive or negative ... The system will not learn - feelings give us this opportunity” (2018).

It would not hurt to supplement these reflections with the understanding that all processes occurring in organisms are metabolic processes (metabolism, anabolism, catabolism) aimed at maintaining homeostasis. And all of them can be comprehended with the help of comparative concepts designed specifically for understanding processes.

This means that comparative concepts are also capable of reflecting the processes that occur in the human brain. Moreover, some of them give the computational activity of the brain, starting with the “correlated” and other concepts of the upper row of the panlogical paradigm, while others, starting with the concept of the “opposite” of the lower row, give the observer an understanding of the processes.

The brain in this case performs, as it were, two functions: firstly, it translates from the language of nature into the language of feelings understandable for organisms. And secondly, in the process of exchange with the environment, the brain accumulates intellectual capital in the form of objective knowledge about the surrounding world and a subjective attitude towards it.

In the light of the foregoing, the opinion of the 2020 Nobel Prize in Physics Laureate, Oxford University Professor Sir Roger Penrose (1989), who comments on the operations of calculation and understanding, seems interesting. First, he believes that “everything that happens in our head obeys the same laws that the universe around us obeys. However, in his opinion, these laws are not yet fully understood by us. So for me, Penrose continues, there is something else beyond the computational laws of physics. What could it be?" And the professor concludes that this is not a calculation, but “the process of understanding something ...”.

From my point of view, this is a look at the same phenomenon from two different points of view, one of which allows you to calculate the phenomenon - the upper branch of the panlogical paradigm, while the other, the lower branch, understands it.

Another position of Roger Penrose, who for many years has been interested in consciousness and its connection with the fundamental issues of physics, is that “consciousness does not fit into the physical picture of the world”, “there is no place for it in the physical world”.

The question is, “what to do with it“? We have an answer to this question: it is necessary to inscribe consciousness into the physical picture of the world through thinking with unambiguous concrete-scientific and concrete-universal comparative concepts, which is based on the dialectic of natural and social processes developed by Yuri Rotenfeld (2021). And then you will not have to change the physical picture of the world, agreeing that it is correct for us. As a result, we will learn to understand the rationality of the universe at all its many levels and ourselves as a person.

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