

To fully answer all your thoughts and questions, I will have to write at least a complete thesis.

What is consciousness in essence? Why are our actions accompanied by an internal subjectively experienced life, and do not proceed in the "darkness" of unconscious existence? What allows us to exist in the physical universe as more than complex physical systems? Why are we not unconscious zombies who do not have mental experience, but have manifestations of psychic abilities (such as perception, thinking, memory, imagination, etc.) at the behavioral level of being, characteristic of conscious subjects, and can pass due to their structural and functional arrangement any modifications of the Turing test? Analyzing the works of his predecessors, D. Chalmers notes that they mostly solved the "light" problems of consciousness that affect the overall functioning of the psyche: "How does the brain process stimuli coming from the environment? How does he integrate information? How do we generate internal state reports?"

At the same time, the "difficult" problem of consciousness fell out of the focus of philosophical research, which is due to the fact that a person's mental life is not simply reduced to processes of an energy order, but is accompanied by mental experience that cannot be derived from the activity of physical systems. How, for example, does it become possible that the neurophysiological, biochemical and bioelectrical processes underlying the existential basis of the experience of red color are transformed into this conscious phenomenal-psychic experience of red color itself?

Given the division of mental existence into the conscious and unconscious spheres of the psyche, the question arises, due not only to why we are conscious, and do not function as soulless automatons, devoid of an internal subjectively experienced life, but also why we are in the waking (conscious) state, and do not function like hypnotized zombies who are not aware of anything, but at the same time are not completely soulless automata, because they have an unconscious psyche.

The British physiologist and neuroscientist C. Sherrington describes the problem of the existence of consciousness and the difficulty of solving it within the framework of the scientific picture of the world in the following words: "When I raise my eyes up, I see the dome of the sky, the disk of the sun sparkling on it and hundreds of objects under it. What creates this picture? The sunbeam enters the eye, focuses on the retina and causes changes that spread through the nerve levels of the brain. All steps in this chain, from the sun to the upper levels of the brain, are physical events. Each step is an electrical reaction. But then there are changes that are completely different from what led to them, and these changes are not clear to us. A visual scene arises in the brain: the dome of the sky, the sun on it, and hundreds of other visual things.

If we rely on materialistic positions and believe that in its existential basis the surrounding world consists of interacting particles and fields and nothing more that does not have a material (physical) nature, but at the same time, by virtue of direct experience, we recognize the existence of an irreducible phenomenal content our inner mental life, we must reasonably explain how it becomes possible that physical processes give rise to those that are irreducible to them, i.e. having non-physical being and non-physical essence, mental experiences.

How can physical systems give rise to non-physical (mental) phenomena, while, according to the law of conservation of energy, one physical being can only transform into another physical

being? Even G. Leibniz noted that the existence of consciousness cannot be explained by appealing to the functioning of complex physical systems.

On this occasion, he writes: "Even if we had such sharp eyesight that we could see the smallest particles of the structure of bodies, then, it seems to me, we would not advance a single step and would not see where perception comes from, just like that. just as now it is impossible to detect it either in the clock, where all the constituent parts of the mechanism are clearly visible, or in the mill, where you can even walk between the wheels; for the difference between a mill and a finer machine is only one of quantity. It is easy to understand that the machine, although it produces the most beautiful things in the world, does not itself perceive this.

As D. Searle remarks, "consciousness is characterized by a non-eliminable subjective ontology." We can talk about a neural code, through which a mental event is encoded at the physical level of being, but at the same time, in itself, it remains not identical to the neural code, since knowledge of the latter and all the laws of physical being still does not necessarily give us an understanding of what it represents. itself in its subjective-phenomenal content, this mental event itself.

For example, one can imagine that we have determined in a hypothetical alien a neural code that encodes a mental event associated with the visual perception of objects in the X-ray part of the electromagnetic spectrum, but with no knowledge of the physical (neurophysiological, biochemical and bioelectrical) laws that are involved in production of a neural code, will not allow us to understand at the level of internal phenomenology what it is like to subjectively perceive the world around us in X-rays.

Before proceeding to the causalistic premise, let us separate the concepts of material and physical beings. By a physical entity is meant such an entity that 1) is localized in an objectively existing (astronomical) space-time, 2) has an energy that allows work to be done in an objectively existing space-time, and 3) obeys physical laws that establish fundamental relationships between quantities characterizing its being in an objectively existing space-time.

Matter is an objectively existing ontological basis (ie the ultimate essence and cause) of any physical event that takes place in the surrounding world. The concept of the material has a larger scope than the concept of the physical, because every physical event is material, but not every material event is physical. The material being differs from the spiritual (non-material) being in that it always has a physical component of being, while the spiritual being itself is devoid of the physical component of being.

Some philosophers identify materialism and physicalism (for example, D. Chalmers), which impoverishes the concept of matter and makes it impossible to explain its regular ordered organization without involving non-material (spiritual) entities.

Physicalism is nothing more than a special case of materialism. Physical reality and material existence are not the same thing. Matter as such is not exhausted by known forms of physical matter. And material existence goes far beyond the boundaries of the physical world known and accessible to modern science.

The causalistic premise is reduced to the inviolability of the principle of causal closure of physical events, according to which, by virtue of the law of conservation of physical energy, any physical event can have only a physical cause and only a physical effect, because if a physical event has a non-physical cause, then physical energy arises from nowhere, and if a physical event has a non-physical consequence, then the physical energy disappears into nowhere.

From the principle of causal closure of physical events follows the principle of epistemological completeness of physics, according to which, to describe and predict the behavior of any, arbitrarily complex, physical system at the physical level of being, physical properties, characteristics and laws are sufficient.

If physical events are affected by non-material conscious experience, then physical energy must be obtained from some non-material source, and as a result, the total physical energy of the universe will increase. Similarly, for physical events to affect conscious events, energy must be drawn from the physical universe. However, according to the principle of conservation of energy, energy cannot be created or destroyed. This gives rise to the psychophysical problem and the problem of mental causation, which must be resolved within the framework of a philosophical theory of consciousness.

It follows from the principle of causal closure of physical events that any energy, no matter how we call it, being precisely the ability to perform work aimed at changing the quantitative parameters of a material system, has a physical nature in its ontological basis. For example, Z. Freud, developing within the framework of the scientific picture of the world the energy concept of the psyche (according to which consciousness is a free form of being of mental energy, and the unconscious is a connected form of being of mental energy), emphasized that mental energy in its existential basis is a neurophysiological arousal, i.e. the essence of the physical order.

Understanding the figurativeness and insufficient relevance of the language of psychology to empirically fixed data, Z. Freud writes: “The shortcomings of our description would probably disappear if we could replace psychological terms with physiological or chemical terms.”

Idealistic theories of consciousness, despite their simplicity (which is due to the fact that the existence of consciousness as a spiritual substance does not require reasoned explanations, but is recognized as an axiomatic given), do not agree with the scientific picture of the world, since the physical equations describing the fundamental level of the existence of the surrounding world, do not contain spiritual (non-physical) quantities and do not need them to explain the existence of the whole variety of objectively observed phenomena.

The presence of spiritual (non-physical) quantities in the equations of physics would indicate an energy interaction between spiritual and material beings, which, in turn, would indicate a violation of the principle of causal closure of physical events. Within the framework of idealistic monism, the material Universe cannot arise, since otherwise physical events will have a non-physical cause.

If we turn to the concepts of substantive dualism, then again, due to the principle of causal closure of the physical world, a spiritual substance cannot exert an energetic influence on material objects, and therefore its role in the life of the physical Universe is reduced to zero.

Since idealistic theories of consciousness do not conform to the causalist premise, this brings us to the materialistic principle, which is that a philosophical theory of consciousness should be developed within the framework of a materialistic worldview, i.e. it must recognize the primacy of material processes, which, at a certain level of structural and functional organization, give rise to processes of a mental nature.

Thus, the existence of consciousness, according to the materialistic principle, ultimately takes root in the existence of neural processes occurring in the human brain, and in the existence of the surrounding world, which has an influence on these processes that does not go beyond the limits of scientific and materialistic ontology. In other words, a mental being exists only insofar as the processes of a physical (neurophysiological, biochemical, and bioelectric) nature corresponding to it are realized.

The simultaneous satisfaction of the materialistic principle and the phenomenological prerequisite leads to a contradiction, which is due to the fact that mental experiences, on the one hand, are produced by physical systems, but, on the other hand, have a unique ontology and are characterized by the presence of a subjective-phenomenal (qualitative) content, irreducible in essence to physical (neurophysiological, biochemical and bioelectrical) processes occurring in the human brain.

A philosophical theory of consciousness must deal with this ontological problem by showing how the private being of mental phenomena fits into a materialist ontology.

According to the definition given above, the concept of a material being has a larger volume than the concept of a physical being, and accordingly the question arises whether a material non-physical being can exist in isolation from a material physical being. If we answer it in the affirmative, then non-physical being, just like physical being, becomes causally closed, i.e. does not need any reason that goes beyond its own ontological sphere.

In turn, this means that the non-physical being, being the cause of itself, is substantialized and opposes, as a substance, the physical level of being. Thus, we come to a substantial dualism, which is incompatible with the materialistic (naturalistic) point of view, which asserts that the ontological basis of the surrounding world is the only material principle as the ultimate cause and essence of all observable processes.

Therefore, we must answer the question in the negative, thereby affirming the principle of ontological inseparability, which boils down to the fact that a material non-physical entity under no circumstances can exist in isolation from a physical entity. In other words, a material non-physical event occurs if and only if the corresponding material physical event occurs.

With regard to the reducibility or irreducibility of the essence and being of a mental being to the essence and being of a physical being, materialism (naturalism) can be reductive or non-reductive. In turn, reductive materialism, which claims that consciousness is reduced to processes of a neural (physical) order, is divided into strong and weak.

In accordance with strong reductive materialism, consciousness is reduced to processes of a neural (physical) order in essence and in being, i.e. its inherent properties are identical to the

properties of the physical being and it exists in the mode of physical being. In other words, a mental entity has physical properties and exists in the same way that a physical entity exists.

Weak reductive materialism believes that consciousness is reduced to processes of a neural (physical) order in essence, but not in being, i.e. its inherent properties are identical to the properties of a physical being, but it does not exist in the mode of physical being. In other words, a mental entity has physical properties, but exists differently than a physical entity exists.

According to non-reductive materialism, consciousness is not reduced to processes of a neural (physical) order, neither in essence nor in being, i.e. its inherent properties are not identical to the properties of a physical being and it does not exist in the modus of physical being. In other words, the mental being has no physical properties and exists differently from the physical being.

With regard to the number of causal levels, which in essence are not reducible to each other and determine the existence of things in the surrounding world, materialism (naturalism) can be 1) monistic and 2) dualistic.

According to naturalistic monism, nothing exists in the ontological basis of the surrounding world except physical matter. This point of view corresponds to the classical materialistic ontology. All processes and phenomena that are found in the Universe are of a physical nature and are determined by physical causes. We can describe them at different representative levels (chemical, biological, psychological, social or spiritual), but at the same time, in essence, they remain material-physical, since one physical event gives rise to only another physical event and, in turn, is itself generated only by a third physical event.

Separate representative levels exist in our subjective perception and thinking, while in objective reality there are only complexly organized physical systems that obey physical laws, and laws of a higher order (chemical, biological, psychological, social or spiritual) are reduced to the latter (i.e. are derived a priori from them), being their statistical generalization for a convenient and compact representation.

Therefore, the fundamental ontology of the surrounding world is the physical ontology underlying all observable events. It follows that naturalistic monism is a reductive concept, according to which consciousness is reduced to processes of a neural (physical) order.

Naturalistic monism of a strong reductive type asserts that every mental event in being and in essence (ontologically and phenomenologically) is reduced to events of a physical order. Every event that takes place in the world, in relation to the objective essence, i.e. in relation to what actually happens and happens when a given event occurs, is reduced to a set of physical events without losing any of the properties and characteristics inherent in the event in question.

In particular, all properties and characteristics of mental experiences, according to this point of view, can be reduced to physical properties and characteristics that manifest themselves at the level of neural processes occurring in the human brain. For example, A. Damasio claims that "mental processes are the equivalent of certain processes occurring in the brain", and "some neural patterns are simultaneously mental images."

Therefore, materialistic monism of a strong reductive type is physicalism, although not all modern philosophers dealing with the problem of the existence of consciousness agree with this point of view.

“Physicalism is not a kind of monism... In physicalism, the emphasis is not on the existence of one reality, matter, but on the special role played by physics... Physicalism is the doctrine of causality. It is based on the principle of “completeness of physics”... The principle of “completeness of physics” does not mean that physics can explain everything.”

However, if we assume that physical events are causally closed, i.e. any physical event is causally determined by another physical event and in itself causes a third physical event, then in this case the existence of non-physical events, the causal series of which can never be reduced to events of a physical order and which therefore cannot be explained within the framework of physical science, indicates the existence the second, along with matter, the non-material (spiritual) basis of being, as a result of which we come to a substantive-dualistic picture of the world.

Moreover, this kind of ontological dualism does not allow the interaction of physical and non-physical beings, since otherwise the principle of “completeness of physics” is violated, and logically leads to the concept of psychophysical parallelism.

Materialistic monism of a strong reductive type develops within the framework of the theory of the identity of consciousness and body, according to which mental experiences are essentially identical to physical (neurophysiological, biochemical and bioelectrical) processes occurring in the neural networks of the brain, just as light is essentially identical to the flow of electromagnetic waves.

The representatives of the theory of the identity of consciousness and body include D. Armstrong, D. Lewis, Y. Place, D. Smart, H. Feigl. They believe that a mental event is identical to a neural one, and any description of the inner subjective life of a person in mental terms can be translated into the language of physics without losing the essential content.

On this occasion, the Australian philosopher D. Smart, in his article “Sensations and Brain Processes”, states that “sensations, states of consciousness seem to be the only kind of things that remain outside the physicalist picture, and for various reasons I I just can't believe it's possible.”

For example, the experience of pain is identical with the excitation of certain fibers in the cerebral cortex, but we may not understand their identities, just as we may not understand the identities of light and the flow of photons, or the identities of the Morning and Evening Star.

Continuing this metaphor, we can say that the Morning Star seems to us different from the Evening Star simply because we describe them differently, defining one as the celestial body, the brightest in the morning firmament, and the second as the celestial body, the brightest in the evening firmament. But if we trace the trajectories of their movement across the starry sky, we will be convinced that in reality they represent one and the same celestial body, namely Venus. Thus, two different descriptions correspond to the same real object.

Similarly, two different descriptions - neural and mental - correspond to the same physical events that occur in the cerebral cortex.

If we recognize the identity between the psychic description and the physical, just as we recognize the identity between the Morning Star and the Evening Star, or temperature and the average kinetic energy of molecules, then this means that the psychic is essentially a certain kind of physical. Therefore, everything that is essentially related to the first is equally related to the second, and everything that is essentially related to the second is equally related to the first.

If someone imagines an orange sky, then within the framework of the theory of the identity of consciousness and body, it is correct to say not that the act of imagination corresponds to neural processes, but that the act of imagination with all its mental properties, in fact, does not differ in any way from the aggregate neural processes. However, with the help of scanning, using the most fantastic technologies, we will not find an orange sky in the human brain, i.e. we will not actually detect what he sees, but we will detect neural processes, which, by virtue of the theory of the identity of consciousness and body, are in themselves an imaginary orange sky.

Consequently, either 1) the psychic does not exist at all, but only the physical exists, or 2) there is no absolute identity between the psychic and the physical. In the first case, we arrive at a violation of the phenomenological premise and are confronted with a contradiction in our everyday experience, which proves that the psychic exists and that we really see an orange sky, and not just talk about it. In the second case, not all mental properties can be reduced to properties of the physical order, and, therefore, we are moving away from the theory of the identity of consciousness and body towards materialistic (naturalistic) dualism.

In the framework of materialistic monism of a weak reductive type, mental experiences are forms of being of physical systems and, accordingly, can be reduced 1) to the functions of physical systems, which is typical for functionalism, according to which mental experiences are essentially identical to functional states that are realized in the neural networks of the brain, similar to how the operations of addition and multiplication are reduced to a sequence of computational algorithms that are carried out in calculator chips, or 2) to the behavior of physical systems, which is characteristic of behaviorism, according to which mental experiences are essentially identical to the sum of complexly organized actions of the human body as a whole, similar to how the flight of a bird is reduced to the sum of the actions that a bird in flight performs.

The representatives of functionalism, which is currently popular due to the rapid development of computer technology, include D. Dennett, H. Putnam, P. Churchland, D. Fodor. They believe that mental states are functions implemented on a physical carrier, which, generally speaking, can also be of an inorganic nature. In this case, a function is understood as a causal relationship between an "input" event and an "output" event.

According to functionalism, the behavior of a person as a complex physical system is no different from the behavior of a robot, because it is controlled by programs and algorithms that are implemented in the biocomputer of the brain. Man is like a Turing machine in the sense that the brain is organic hardware, and consciousness is software implemented on an organic medium. In particular, H. Putnam argues that "pain or the state of pain is the functional state of the whole organism."

If such a functional state is implemented in the software of the robot, then the latter experiences pain in the same way as a person experiences it. Since any mental experience is a function

implemented on a physical carrier, the robot can not only experience pain, but also have any subjective experience that is characteristic of a person.

Imagine, as suggested by D. Chalmers in his book *The Conscious Mind*, a thought experiment in which all neurons in the brain are replaced by silicon chips that perform the same function as the removed neurons. As a result, the brain will turn into a cybernetic device created from inorganic material, but human behavior will not change, because behavioral reactions are determined by causal relationships between "input" events and "output" events, i.e. functional states of the body.

D. Chalmers notes that "if our neurons were replaced by silicon chips, then, provided that these chips were endowed with states with the same schemes of causal interactions as neurons, this system would generate exactly the same behavior ". Since the behavioral reactions in the thought experiment under consideration remain the same, neither the person himself nor the people around him will detect the substitution made.

It follows from this that mental experiences that are involved in human behavior will also not undergo transformations, which means that they are identical to the functions of the brain, implemented on any physical medium.

Due to the fact that subjective experience is determined not by the biology of the brain, but by causal connections between individual neurons or groups of neurons, it is possible to admit the existence of functional isomorphs (that is, creatures that are not identical to us substrate, but functionally identical) and fantasize about the relative immortality of the person who is transferred , including self-consciousness, from one physical carrier to another.

In defense of functionalism, D. Chalmers offers another thought experiment with jumping mental experience. Let us imagine that in the test subject all parts of the brain are not replaced, but are duplicated by silicon analogues, which are functionally indistinguishable from the work of organic neurons. As a result, we get two different brain circuits (organic and inorganic) that control human behavior. Suppose that with the help of a special switch we can activate either one circuit or another.

If the functional isomorph does not possess knowledge, then when the silicon analogue is turned on, the consciousness of the subject disappears. When the organic neurons are turned on again, the subject's consciousness reappears. Since both brain circuits are functionally identical, the behavior of the subject remains unchanged when the switch position is changed, while his internal subjective experience disappears in one position and reappears in another. Thus, the mental experiences of the subject "jump", but neither the subject himself nor the surrounding observers notice this, although the subject continues to talk about his experiences even when they turn out to be turned off.

Identity at the level of functional organization entails identity at the level of behavioral reactions, and identity at the level of behavioral reactions entails identity at the level of functional organization, because functions are realized in behavior, and behavior is determined by a set of functions. Consciousness, as an aspect of the system under study, must manifest itself in its behavioral activity, since otherwise it cannot be recognized as existing at all. Therefore, concludes Chalmers, we must agree that the functional isomorph is conscious.



It should be noted that functionalism, in contrast to identity theory, is a more subtle form of reductionism, since it reduces mental states not just to the physical states of neurons, but to logic-computational operations that, generally speaking, can be implemented by other material structures.

That is why functionalism (in contrast to reductionism of a strong type) identifies mental and physical phenomena in essence, but not in being, because mental properties are reduced to properties of the physical order (i.e., to causal relations between physical objects), but mental being is not reduced to the being of the physical order, because the functions of physical systems (causal relations between physical objects) exist differently than the physical systems themselves, due to their multiple realizability on different physical media.

To explain consciousness means to find such a logic of reasoning, in which the emergence of consciousness and awareness should become inevitable.” Therefore, functionalism, first of all, faces the problem of the existence of qualia, which inevitably do not arise during any functional transformations of a living organism.

If thinking (together with the intentional component of consciousness) can be reduced to logical computational operations that are implemented in the neural networks of the brain, then sensibility (together with the phenomenal component of consciousness) is not subject to this kind of reduction, because no logical computational operations that exist objectively and data from without, do not explain the existence of a phenomenal consciousness that exists subjectively and is given from within.

Analyzing the functionalist understanding of mental phenomena, D. Chalmers in his article “Facing up to the Problem of Consciousness”, despite the significant advantages of this approach, comes to a disappointing conclusion: “The key issue of the problem of consciousness is the explanation leaves open in functional terms.

The discovery of a single functional state, which is realized on a non-identical physical substrate, is similar to the discovery of ideas that describe the ideal unity in a multitude of material objects. If we assert that these functions, identical to the phenomenal content of psychic experiences, exist objectively, i.e. regardless of our representation, then we must also recognize that objectively there are subjective images and ideas through which we represent the world around us, and this already leads not only to a logical contradiction in the concepts of “objective” and “subjective”, but also to the loss of the most subjective-phenomenal content of psychic experiences.

The addition operation can be implemented on wooden abacus, a pocket calculator, a quantum computer or neural networks of the brain, but this raises a logical question: where and how does it exist?

After all, if we say that it exists in thinking, then thinking turns out to be a necessary condition for the existence of functional states, and we deviate towards subjective idealistic concepts. If the operation of addition exists independently of thinking, then we ask ourselves the following question: where and how does it exist, provided that the entire surrounding world in its ontological basis is only a complexly arranged interaction of physical elements?

Take, for example, as a function implemented on a different material substrate, the game of football. It can be played by people, animals or robots. So the function remains the same, but the physical medium changes. We ask again: what being does football as such have? It is clear that the game of football is a generalization of a set of algorithms that determine the movement of players across the field. Also, the addition operation is a generalization of a set of algorithms that define the causal relationship of symbols at the "input" and symbols at the "output". But any generalization is in itself an intellectual procedure carried out by the cognizing subject.

In physical nature, regardless of generalizing thinking, there are no generalizations, and, therefore, the existence of a function that is invariant with respect to the physical substrate implies the presence of a generalizing subject. If the latter does not exist, then it is meaningless to speak of the existence of a function as such. At the physical level, only physical (mechanical, electrical or quantum) processes take place in the computer, which are combined by the operator's consciousness into a representative whole.

Equally, at the neuronal level in the cerebral cortex, only neural (neurophysiological, biochemical or bioelectrical) processes take place, and mental experiences acquire their existence only in the mind of the perceiving and thinking subject. Therefore, if we separate the function from the substrate not only logically, but also ontologically as something that preserves its self-identity on different physical carriers as the phenomenal content of mental experiences, then we thereby hypostasize the result of the generalizing procedure and attribute to it an objectively real being, similar to being Platonic ideas.

The causal relations are themselves distinct from the being that enters into the causal relations. In other words, a function differs from the carrier of functions, since otherwise it is substantialized and correlated with the physical carrier no longer as a function, but as a substance, which turns functionalism into substantial dualism. However, the elements of mental experience enter into causal relations with each other, and, consequently, consciousness, experienced from within, is the carrier of functions (since it itself performs causal roles due to its significance in human life), and not the function of a physical carrier.

According to the theory of psychological behaviorism, which is followed by D. Watson, B. Skinner and E. Tolman, mental phenomena are no longer ways of describing behavioral reactions, as is typical for logical behaviorism, but complexly organized sets of conditioned reflex relationships. In particular, the process of meaning formation has a stimulus-reactive character, due to which words have meaning only insofar as they evoke a reaction similar to that evoked by referents.

Mental activity is characterized by the presence between the stimulus and the reaction of immanent determinants, which can be adaptive acts (as D. Watson believes), cognitive maps (as E. Tolman believes) or operant learning patterns (as B. Skinner believes). Strictly speaking, in psychological behaviorism, consciousness as such does not exist at all, since what we call the inner subjective life of a conscious being is in fact identical with objectively observable complexes of behavioral reactions.

Thus, solving the problem of the existence of consciousness in the physical world, we can stop at the idealistic point of view, according to which consciousness is not derived from matter, i.e. has a transcendent (going beyond the limits of material existence) ontological basis, or on a

materialistic point of view, according to which consciousness is derived from matter, i.e. has an immanent (inherent in material being) ontological basis.

If we stop at the materialistic point of view, then we can take a reductive approach, according to which the mental is a kind of physical, i.e. is reduced to the latter and does not differ from it in its essential characteristics and properties, or a non-reductive approach, according to which the mental is not a kind of physical, i.e. is not reduced to the latter and differs from it in its essential characteristics and properties.

The reductive approach is divided into strong type reductivism, which claims that the mental is reduced to the physical both in essence and being, or weak type reductivism, which claims that the mental is reduced to the physical in essence, but not in being. The non-reductive approach, in turn, can be understood as a primary dualism of properties, according to which non-physical properties that act as the ontological basis of mental characteristics appear as a result of the regular activity of physical systems at a certain level of their structural and functional organization, or a secondary dualism of properties, according to which non-physical properties, acting as the ontological basis of mental characteristics, are inherent in all physical systems in general at any arbitrarily simple level of their structural and functional organization.

Each of the logically possible solutions to the problem of the existence of consciousness in the physical world faces serious questions and has weaknesses. The idealistic point of view refuses the materialistic ontology, which today underlies the scientific picture of the world. The reductive approach (in its strong and weak versions) eliminates subjective reality. The secondary dualism of properties requires the postulation of non-physical laws that explain the transformation of a physical entity into a non-physical one and thereby violate the epistemological completeness of physics.

The primary dualism of properties expands the scientific picture of the world, supplementing it with a non-physical essence of a fundamental order, which forces one to abandon the classical materialistic ontology and creates a threat of a transition to a panpsychic type ontology. However, it is the primary dualism of properties that does not conflict with the phenomenological and causal premises of this study.

Therefore, its further development is necessary, which will make it possible to create a coherent theory of consciousness and cope with the ontological difficulties indicated above.

In this part, we touched on consciousness. The following will include: energy and information as two components of material existence, the principles of quantum ontology, Schrödinger's experiment, information causality, the determinism of information events, the genesis of consciousness as a natural stage in the evolution of information systems, the evolutionary problem of consciousness, about a deterministic point of view, about free will and cognition God, etc...

**You:** The challenge is to build a theory like geometry that can, with the help of some axioms, develop powerful theorems and predictions that can be relied upon in the real world. It is here that it becomes interesting and useful to move from abstract concepts to physics, and then to technology. If you get the theories right and translate them into engineering, then you can design

a building that stands and planes that fly. We don't have that (yet) with respect to consciousness and mental states.

**You:** I think it would be helpful to take some of them and develop them in more detail and in a sequence by which measurable predictions can be made (that's my physics background, saying predict what anyone can measure). It's all worth it, but I think it will take some time.

In these paragraphs of yours, if I understand correctly, we are talking about predictive analytics and the development of software for physical measurements. There are other research topics that you probably know - research and development of methods for implementing question-answer systems and extracting knowledge from data.

All this relates to data mining - from this you can go to the development of real-time decision-making systems - building time series, anomaly detection methods, etc.

A key issue in any anomaly detection method is the nature of the underlying data. The input is usually a collection of data instances (which may be called objects, records, points, patterns, samples, events, observations, entities, etc.). Each object can be described by a set of attributes (variables, characteristics, fields). Attributes can be of various types - binary, categorical, continuous.

Each object can be described by one attribute (one-dimensional) or several (multidimensional). The applicability of anomaly detection methods is determined by the nature of the attributes. For example, for statistical methods, when working with continuous and categorical data, different statistical models must be used. Similarly, for nearest neighbor methods, the nature of the attributes will determine the metric.

It is also possible to carry out data mining in the DBMS. In 2016, in the Beckman Report, the world's leading experts in data technology stated that the transition to a smart data-driven society requires an integrated and end-to-end process from obtaining data to extracting useful knowledge from them.

DPTM is also used in the tasks of finding hidden patterns in data.

Naturally Matlab, neural networks, Wolfram mathematics.

There are methods for diagnosing the emotional sphere - the MBTI questionnaire, the MMPI questionnaire, the Method for the differential diagnosis of depressive states by V. Zunge, the Method for the express diagnosis of neurosis by K. Heck and H. Hess, the Method for determining stress resistance and social adaptation of T. Holmes and R. Rage, the Method for assessing aggressiveness in relationships A. Assinger, Method of pictorial frustration S. Rosenzweig, Method for diagnosing indicators and forms of aggressive behavior A. Bass A. Darki, Diagnostics of hostility (according to the scale of W. Cook - D. Medley), Method for self-assessment of mental states G. Eysenck, The method of self-assessment of the level of anxiety Ch.D. Spielberger, J. Taylor Anxiety Scale, D. Sheehan Anxiety Self-Assessment Scale, etc.

What can be said? The unique status of neurosis as a disease, in the etiopathogenesis of which psychological factors play a leading role, undoubtedly remains a topical topic of scientific research. The prevalence and susceptibility of this disease to the influence of socio-economic

and cultural changes taking place in the world, the presence of a clinical pathomorphosis of neuroses makes clinicians and psychologists again and again turn to the psychological aspects of neurotic disorders.

Psychological research in the clinic of neurotic disorders covers the widest range of phenomena: the system of relationships, personal meanings, attitudes, defense mechanisms, coping behavior, psychological conflicts, etc. It is also extremely important to study personality traits and more general patterns of neurotic personality traits that prevent constructive resolution of difficult situations and internal conflicts, make them subjectively insoluble. The literature contains descriptions of such personality patterns characteristic of the main forms of neuroses (hysteria, neurasthenia, obsessive-compulsive disorder).

However, at present, in the diagnosis of neurotic disorders in connection with the clinical pathomorphism of neuroses, these categories are practically not used, which makes it difficult to understand the content of the psychological component in the etiopathogenesis of neurotic disorders in modern conditions. Therefore, the study of personal characteristics characteristic of a neurotic personality (personal dysfunctions), analysis of their content and determination of the degree of their severity is an urgent task.

The current situation is largely due to the lack of adequate tools for these tasks - methods that make it possible to identify and measure a wide range of personality traits of the neurotic register.

All questionnaires are reduced to a matrix created by a person, based on his worldview, and everyone has their own, just like everyone has their own individual psychotype.

Although the best minds of our civilization have repeatedly proved that there is not a shadow of a doubt about the existence of quantum mechanics, what it entails sounds so strange to the average person that it often remains incredible and magical for him. Understanding the meaning of quantum mechanics even for the first time raises the question of the existence of reality.

A fairly common reaction to quantum theory is to assume that everyone who preaches it must be under the influence of some kind of science fiction, that this is the result of a mass delusion, because it is about something that cannot be.

Even Albert Einstein, who helped discover some of the most important principles underlying quantum mechanics, did not fully believe in some of its other principles. He spent decades trying to understand them, and he understood them better than many others. It was his deep understanding of its foundations that created problems for him. He even set up experiments, trying to prove or disprove them. He could not logically test or explain many of the strange properties of quantum mechanics and the "terrifying from a distance" results.

After decades of waiting for experimental confirmation of his assumptions, he simply moved on to other scientific areas. Apparently, his brain was just tired of constantly thinking about it. So not so great minds can be excused.

I, if it's acceptable, need remote job. You are familiar with my profile.

Thank you. To be continued...

