УДК 004.8
5.2.2. Математические, статистические и инструментальные методы экономики (физико-математические науки, экономические науки)

ПРОБЛЕМА ОПРЕДЕЛЕНИЯ И КРИТЕРИАЛЬНОЙ КЛАССИФИКАЦИИ ФОРМ ЕСТЕСТВЕННОГО И ИСКУССТВЕННОГО СОЗНАНИЯ

Луценко Евгений Вениаминович
д.э.н., к.т.н., профессор
Web of Science ResearcherID S-8667-2018
Scopus Author ID: 57188763047
РИНЦ SPIN-код: 9523-7101
prof.lutsenko@gmail.com http://lc.kubagro.ru
https://www.researchgate.net/profile/Eugene_Lutsenko
Кубанский Государственный Аграрный университет имени И.Т.Трубилина, Краснодар, Россия

Головин Никита Сергеевич
учащийся
nikita.golovin@prvavojvodjanska.edu.rs
http://rocket2009.byethost22.com/
Школа Первой войводжанской бригады, г.Нови-Сад, Сербия

В данной статье ставится проблема определения и критериальной классификации форм естественного и искусственного сознания, а также предлагается и кратко обосновывается вариант решения этой проблемы. В частности рассматривается понятие сознания в философии, социологии, политологии и психологии. Кратко рассматриваются различные аспекты общественного и индивидуального сознания. Уточняется понятие сознания в контексте данного исследования. Кратко описывается суть метода научной индукции, который и является научным методом познания, т.е. научным методом. Предлагается применение метода научной индукции в исследования индивидуального сознания. Рассматривается логика возникновения конкретных наук их преднауки философия. Обосновывается, что основной вопрос философии, диалектика, логика и теория познания как последний оплот преднаучного мышления. Раскрывается недостаточность теории познания и обосновывается необходимость теории сознания. Описывается путь от постулирования решения основного вопроса философии к его постановке и решению методом научной индукции. Обосновываются критерии классификации индивидуальных форм сознания и на этой основе дается определение сознания. Рассматривается детерминация форм индивидуального сознания функциональным уровнем технологической среды. Приводятся основные положения ннформационно-функциональной теории развития техники дается определение искусственных эмоций, искусственного интеллекта и искусственного сознание. Приводится периодическая критериальная классификация форм естественного и искусственного сознания

Ключевые слова: СИСТЕМЫ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА, ИНФОРМАЦИОННАЯ СУЩНОСТЬ ТРУДА, ИНФОРМАЦИОННО-ФУНКЦИОНАЛЬНАЯ ТЕОРИЯ РАЗВИТИЯ ТЕХНИКИ

http://dx.doi.org/10.21515/1990-4665-194-007

UDC 004.8
5.2.2. Mathematical, statistical and instrumental methods of economics (physical and mathematical sciences, economic sciences)

THE PROBLEM OF DEFINITION AND CRITERIA CLASSIFICATION OF FORMS OF NATURAL AND ARTIFICIAL CONSCIOUSNESS

Lutsenko Evgeniy Veniaminovich
Doctor of Economics, Cand.Tech.Sci., Professor
Web of Science ResearcherID S-8667-2018
Scopus Author ID: 57188763047
RSCI SPIN code: 9523-7101
prof.lutsenko@gmail.com http://lc.kubagro.ru
https://www.researchgate.net/profile/Eugene_Lutsenko
Kuban State Agrarian University named after I.T. Trubilin, Krasnodar, Russia

Golovin Nikita Sergeevich
student
nikita.golovin@prvavojvodjanska.edu.rs
http://rocket2009.byethost22.com
First Vojvodina Brigade School, Novi-Sad, Serbia

In this article, the problem of defining and criteria-based classification of forms of natural and artificial consciousness is posed, and a solution to this problem is proposed and briefly justified. In particular, we have considered the concept of consciousness in philosophy, sociology, political science and psychology. Various aspects of social and individual consciousness are briefly considered. The concept of consciousness is clarified in the context of this study. The essence of the method of scientific induction, which is the scientific method of cognition, i.e. the scientific method, is briefly described. The application of the method of scientific induction in the study of individual consciousness is proposed. The logic of the emergence of specific sciences and their pre-science philosophy is considered. It is proved that the main issue of philosophy, dialectics, logic and theory of knowledge as the last stronghold of pre-scientific thinking. The insufficiency of the theory of knowledge is revealed and the necessity of the theory of consciousness is justified. The way from postulating the solution of the main question of philosophy to its formulation and solution by the method of scientific induction is described. The criteria for classifying individual forms of consciousness are substantiated and on this basis the definition of consciousness is given. The determination of the forms of individual consciousness by the functional level of the technological environment is considered. The main provisions of the information and functional theory of the development of technology are given, the definition of artificial emotions, artificial intelligence and artificial consciousness is given. The article also gives periodic criteria classification of forms of natural and artificial consciousness

Keywords: ARTIFICIAL INTELLIGENCE SYSTEMS, INFORMATION ESSENCE OF LABOR, INFORMATION AND FUNCTIONAL THEORY OF TECHNOLOGY DEVELOPMENT, BRAIN-COMPUTER INTERFACE, TELEPATHIC KEYBOARD, NEUROINTERFACE

CONTENT

I. Introduction: the phenomenon of consciousness and the problem of consciousness

1.1. Preface

This work is the third in a series of articles [1, 2, 3].

Work [1] analyzes the growing 6th information revolution, the content of which consists in the appearance of numerous artificial intelligence systems in online access, which can be given a wide variety of tasks in natural language, in any language, and these systems perform very quickly and with very high quality These tasks are based on all Internet resources. In this work, the authors try to find an answer to the question of what the next immediate stage in the development of intelligent technologies will be and what the subsequent stages will be. The answer to this question is substantiated on the basis of ideas about the informational essence of labor and the information-functional theory of technology development, which describes the global patterns of technology development that have been in effect throughout the history of mankind. The conclusion is substantiated that the 7th information revolution will be in many ways similar to the 1st, i.e. will have a more global nature and much more far-reaching consequences than all the information revolutions that have already passed (with the exception of the 1st). The evolution of intelligent systems is considered from the point of view of the evolution of their user interfaces, which provide the ability to work with communication models of an increasingly lower degree of formalization. Natural language is considered as an ultra-high-level programming language, and intelligent systems are considered as cross-compilers from natural language into various programming languages. Ideas about artificial intelligence systems of the near and more distant future, having a direct user interface “Soul-Computer”, in particular providing control of computers through thinking and imagination, are concretized. Analogs of similar systems that exist today are considered: brain-computer interface, telepathic keyboard, neural interface, etc.

The work [2] briefly examines 5 past information revolutions, the 6th information revolution, which is developing before our eyes, and the next 7th information revolution, which human civilization is already approaching. The evolution and specific features of 3 generations of artificial intelligence systems are analyzed. The ideas about the informational essence of the labor process (Aristotle, 350 BC) and the basic provisions and laws of the information-functional theory of technology development (Karl Marx, 1867, Lutsenko E.V., 1979-1981) are briefly outlined. Within the framework of this theory, questions are discussed: “can machines think?” and “can machines have consciousness and personality?” Affirmative answers to both of these questions are substantiated. Based on the same theoretical concepts, the 7th information revolution is analyzed, i.e. the future revolution in the field of strong artificial intelligence, which human civilization is rapidly approaching. In the opinion of the authors, this revolution will be in many ways similar to the 1st, i.e. will have

a more global nature and much more far-reaching consequences than all previous information revolutions, with the exception of the 1st. The hypothesis is substantiated that the essence and content of the 7th information revolution will consist in the fact that robots will be created and widely distributed, functionally equivalent to the physical human body and having an artificial partial soul, which will be controlled by a person in higher forms of consciousness using remote micro telekinetic interface, i.e. in the same way that a person's soul controls his physical body. By people in the most common form of consciousness at present, these robots will be perceived and recognized as having feelings, intelligence and personality. Possible problems associated with the mass distribution of advanced artificial intelligence systems are briefly discussed.

This article poses the problem of defining and criterial classification of forms of natural and artificial consciousness, and also proposes and briefly justifies the author’s solution to this problem.

1.2. Phenomenon of consciousness

The phenomenon of consciousness refers to a unique and complex phenomenon of human experience when an individual is aware of the external and internal world, i.e. objects, processes and phenomena of the objective external world, as well as oneself and one’s inner subjective world: one’s feelings, thoughts, goals, spiritual values and motivations. This term is used to refer to all aspects of awareness of both the objective external world and the subjective internal world of a person.

In the context of philosophy and the science of consciousness, the phenomenon of consciousness implies not only the fact of awareness itself, but also its qualitative characteristics. This includes the perception of the surrounding world, the ability to think, self-awareness, the experience of emotions, etc. The phenomenon of consciousness raises questions about how consciousness arises, how it relates to physical processes in the brain, and what levels of awareness exist.

The study of the phenomenon of consciousness includes not only scientific aspects, but also philosophical, ethical, and even metaphysical issues. It is a key element in the study of human psychology, neuroscience and philosophy of mind.

These questions reflect the highest complexity of the problem of consciousness, its pronounced interdisciplinary nature, the extreme diversity of scientific and other areas of research in the field of consciousness, combining philosophical, psychological, neurobiological and many, many other approaches, incl. and non-scientific, in particular pre-scientific and post-scientific.

Of course, in this short work we have no opportunity to even briefly touch on all these aspects of the study of consciousness, and therefore we will dwell in

more detail on the problem of the criterial classification of the forms of natural and artificial individual consciousness.

1.2.1. The concept of consciousness in philosophy, sociology, political science and psychology

In various sciences, such as philosophy, sociology, political science and psychology, the concept of consciousness is interpreted differently:

1. Philosophy:

- Ontological aspect: In philosophy, consciousness is often considered as a phenomenon associated with being and reality. Philosophers are interested in questions about how consciousness interacts with the world, how it forms an idea of reality.

- Epistemological aspect: Consciousness is also analyzed from the point of view of cognition and understanding. Philosophers study how we acquire knowledge, how it is structured in the mind, and how this affects our perception of the world.

2. Sociology:

- Sociocultural aspect: In sociology, consciousness is considered in the context of social and cultural influences. Sociologists study how social structures and values shape the consciousness of individuals and groups.

- Social Constructivism: Some theories, such as social constructivism, argue that consciousness is the result of social interactions, and is formed through language, symbols and social norms.

3. Political science:

- Political consciousness: In political science, political consciousness is studied, i.e. beliefs, values and ideas related to politics. Research in this area may concern the formation of political views and their influence on the behavior of citizens.

- Ideologies: Political scientists also study the influence of ideologies on the consciousness of groups and society as a whole.

4. Psychology:

– Cognitive aspect: In psychology, consciousness is viewed in terms of cognitive processes such as perception, attention, memory, thinking and problem solving.

– Subconscious: Psychology also studies subconscious processes that are not conscious, but influence a person’s conscious behavior.

– Superconscious: Science has not yet studied superconscious processes that are not conscious, but influence the conscious behavior of a person. Research into the supernomous is still being carried out within the framework of mystical, magical, religious teachings and yoga.

– Socionics is a system of personality typology based on the theory of Carl Jung. In socionics, consciousness is considered from the point of view of 16 basic personality types, which correlate with certain cognitive functions.

These types are designated by letters of the Latin alphabet (for example, ILE, SEE, LII), representing unique combinations of four basic mental functions: extraversion/introversion, logic/ethics, intuition/sensory, temperament. Analysis of these types allows us to better understand the characteristics of thinking, perception of information and interaction of people in various spheres of life.

Thus, the concept of consciousness is extremely multifaceted and is studied from different perspectives in various scientific disciplines, as well as outside science. The listed sciences and various aspects of the study of consciousness do not exhaust the entire variety of possibilities available in this direction.

1.2.2. Individual and social consciousness

1.2.2.1. Individual consciousness

Individual consciousness represents the unique and subjective experience of each individual person. It is an internal state that encompasses an individual's thoughts, feelings, perceptions, and self-awareness.

Key characteristics of individual consciousness:

- Subjectivity: Individual consciousness is unique to each individual and depends on his experiences, values and character.
- Self-awareness: The ability to recognize and evaluate oneself and one's actions.
- Introspection: Possibility of independent internal reflective analysis and comprehension.

1.2.2.2. Forms of social consciousness

Social forms of consciousness reflect the collective beliefs, values and perceptions that exist in a society. It is a set of mental processes common to a group of people.

Key characteristics of social forms of consciousness:

- Collectivity: Social forms of consciousness unite people within the framework of common ideas and values.
- Traditions and customs: Reflection of social norms and standards in thinking and perception.
- Sociocultural contribution: The influence of culture, education, environment and social interaction on the formation of social consciousness.
- Social perceptions: Social consciousness reflects social perceptions, ideologies and values. This is a set of views and beliefs characteristic of a particular society at a given historical time.
- Collective Consciousness: Social consciousness can be seen as the result of collective thinking and perception formed by the interaction of individuals within a society.

1.2.2.3. Class consciousness

- Marxist view: According to the Marxist approach, class consciousness means a specific perception of the world characteristic of certain social classes. Class consciousness can be formed on the basis of economic and social conditions.

- Ideology and classes: Class consciousness can be associated with ideologies that serve the interests of certain classes and help maintain social inequalities.

1.2.2.4. Consciousness as a set of social relations

- Social Constructivism Theory: According to this theory, consciousness is formed as a result of social interactions and relationships. Language, symbols and social structures play a key role in shaping the individual's consciousness.

- Reflection of social changes: Consciousness can reflect changes in society, and its dynamics are associated with changes in social relations and structures.

1.2.2.5. Archetypes and consciousness

- Carl Jung and the Collective Unconscious: Jung identified archetypes as universal symbolic images present in the collective unconscious. They can manifest themselves in myths, dreams and cultural expressions.

- Influence on culture: Archetypes influence the formation of cultural images and symbols, as well as the perception of the surrounding world.

Social forms of consciousness and individual consciousness are two different but interrelated aspects of human mental experience. Let's look at each of these aspects in more detail.

1.2.2.6. Interaction between individual and public consciousness

1. Socialization: Individual consciousness is formed through interaction with social structures such as family, education and culture.

2. Transmission of values: Social forms of consciousness can influence individual consciousness, transmitting values and attitudes through sociocultural mechanisms.

3. Individual influence: Individual consciousness, in turn, can influence social forms of consciousness through the individual’s active participation in social processes.

Thus, the interaction between social forms of consciousness and individual consciousness plays a key role in the formation of mentality and understanding of the world, both at the level of the individual and in the context of society as a whole.

1.4. The concept of consciousness in the context of this study
1.3. The problem of consciousness in Western science

Defining the concept of consciousness and identifying difficulties in defining it precisely.

The problem of consciousness is a philosophical and scientific question concerning how and why we have consciousness and how it relates to the physical world. This is an area of study where philosophers, neuroscientists, psychologists and other scientists try to understand the nature of consciousness.

There are several key issues in this area, including:

1. Physical Origin of Consciousness: How do physical processes in the brain give rise to consciousness?

2. Unity of Consciousness: How do different aspects of consciousness (sensation, thinking, self-awareness) integrate into a single whole?

3. Qualitative aspects of consciousness: Why do certain physical processes in the brain correspond to specific conscious experiences?

4. Consciousness and the physical world: How does consciousness interact with the external world and interpret incoming information?

These questions remain open, and research in this area continues. Philosophers have proposed various theories, and neuroscientists have been studying the brain to uncover its role in the formation of consciousness.

In the area of consciousness, there are a number of additional key issues that complement those previously mentioned. Some of them include:

5. Free will: How is consciousness related to the ability to make decisions and free will? Is consciousness capable of influencing our actions independently of physical processes?

6. Ethics and Morality: How is consciousness related to ethical decisions and moral values? What aspects of consciousness influence our perception of right and wrong?

7. Cultural and Individual Differences: How is consciousness shaped by cultural and individual differences? How do these factors influence the perception and interpretation of consciousness?

8. Evolution of Consciousness: What is the evolutionary history of consciousness? What advantages does consciousness provide in the process of natural selection?

9. The Conscious-Unconscious Connection: How do the conscious and unconscious interact, and what roles do they play in human experience?

10. Prospects for Artificial Intelligence: What ethical and philosophical questions arise from the creation of artificial intelligence that has a form of consciousness or intellectual autonomy?

These questions form a complex field of research aimed at deep understanding of the nature of consciousness and its interaction with various aspects of human life.

Additional key questions in the area of consciousness include:

11. Sense Integration: How does the mind integrate and interpret various sense perceptions such as sight, hearing, smell and touch?

12. The phenomenon of qualia: Why does consciousness have qualitative aspects such as colors, sounds and smells? How are these qualities related to physical processes?

13. The problem of self-awareness: How is self-awareness formed and maintained? How does consciousness become aware of itself, and how does this affect the perception of the world around us?

14. Cognitive differences: Which cognitive functions of the mind play a key role in understanding, learning and decision making?

15. Sleep and the unconscious: How is consciousness related to the processes of sleep and the unconscious? What functions does consciousness perform in these states?

16. Plasticity of consciousness: To what extent is consciousness capable of changing and adapting to new conditions or experiences?

17. Social interaction: How is consciousness formed in a social context? How do social interactions influence the formation of individual consciousness?

18. Metaphysical Aspects: Is there something in consciousness that is not limited to the physical world? What metaphysical questions arise when considering the nature of consciousness?

1.4. The problem of consciousness in Indian philosophy

A consideration of the problems of consciousness would be critically incomplete and flawed without at least a brief mention of the enormous and invaluable contribution to the study of consciousness made by Indian civilization, primarily Indian philosophy and yoga. The problem of consciousness in Indian philosophy is considered through the prism of various orthodox, i.e. recognizing the authority of the Vedas, and unorthodox schools and traditions, each of which offers its own unique view of the nature of consciousness [3, 4].

1. Advaita Vedanta (Non-Dual Monaism): Introduced by Shankaroycharya, this approach states that consciousness (atman) and brahman (universal reality) are non-dual. It emphasizes the unity of all that exists and states that consciousness is immortal and indistinguishable from the ultimate reality.

2. Sankhya Yoga: Sankhya is a philosophical system that divides the world into two basic principles: prakriti (nature) and purusha (spirit). Consciousness in this system is considered as a property of purusha, a motionless and permanent spiritual principle.

3. Yoga Sutras: Yoga, as presented in the Sutras of Patanjali, offers a system of practices for achieving awareness and expanding consciousness. The goal of yoga is to achieve conscious unity with the highest reality.

4. Nyaya Vaisheshika: These schools of philosophy view consciousness as a special type of substance or atman that has self-awareness and the ability to perceive.

5. Madhyamaka (middle path) and Yogacara (path of yoga): These schools of Buddhism, although not classical schools of Indian philosophy, also contribute to the discussion of the nature of consciousness. Madhyamaka emphasizes the lack of permanence of all things, including consciousness, while Yogacara emphasizes the illusory nature of reality and views all phenomena as manifestations of the mind.

These different traditions provide varied views on the nature of consciousness and its place in the cosmos, reflecting the richness of Indian philosophy and its long history of discussing these issues.

II. Methodology: natural science method

2.1. The method of scientific induction as a scientific method

The method of scientific induction is a logical approach to drawing conclusions and generalizations based on observations. This method is used to formulate general patterns or principles based on specific observations and experiences. Here are the basic steps of the method of scientific induction:

1. Observation: Scientific induction begins with systematic observation of facts, phenomena or events.

2. Hypothesis Formulation: Based on observations, the scientist formulates tentative hypotheses or assumptions about patterns, relationships, or general principles that can explain the observed phenomena.

3. Conducting experiments and observations: The scientist conducts experiments or additional observations to test a hypothesis and gather additional information.

4. Analysis of results: The data obtained and the results of experiments are analyzed in order to identify general patterns or trends.

5. Formulation of a general principle or law: Based on the analysis of data, the scientist formulates a general principle or law that purportedly describes the observed phenomena.

6. Testing and Repetition: The resulting general principle or law is subjected to further tests and repeated experiments to confirm its reliability and general applicability.

7. Formulation of Theory: If a general principle or law is confirmed by repeated research and experimentation, then it can become part of a larger scientific theory that explains a particular aspect of nature or phenomenon.

It is important to note that, despite the widespread use of the method of scientific induction, it does not guarantee absolute confidence in the truth of the conclusions obtained, and these conclusions can always be adjusted or revised based on new data and research.

2.2. Methodological principles of knowledge included in the scientific method

2.2.1. The principle of relativity

Galileo's principle of relativity is a basic principle of classical mechanics first formulated by Galileo Galilei in the early 17th century. The principle implies that the laws of mechanics are the same for all observers in a stationary frame of reference, and motion relative to a uniformly moving frame also obeys the same laws.

The essence of Galileo's principle of relativity can be expressed as follows:

1. The laws of mechanics are the same for all observers who are at rest or moving uniformly in a straight line (without acceleration).

2. The speed and direction of movement are measured relative to another object, and the laws of physics remain unchanged when moving from one observer to another, moving uniformly and rectilinearly relative to the first.

Galileo's principle of relativity became an important basis for the development of classical mechanics. It predates the more general principle of relativity, which was formulated by Albert Einstein in 1905 in his paper “On the Electrodynamics of Moving Bodies.” In this article, Einstein laid out the foundations of the special theory of relativity (STR), which transformed our understanding of space, time and motion.

Einstein's principle includes two main provisions:

1. The principle of relativity: The fundamental laws of physics are the same for all observers in a state of uniform and linear motion. This means that it is impossible to determine whether an observer is at rest or moving uniformly using only the laws of mechanics.

2. The speed of light is constant: The speed of light in a vacuum is approximately 299,792,458 meters per second and remains constant whether the light source or the observer is moving. This contradicts the classical ideas about speed, based on Galileo's principle of relativity.

This means that according to the laws of nature, found in a certain place at a certain time, it is impossible to determine what kind of place it is and what time it is.

From the point of view of the theory of knowledge, the meaning of the principles of relativity is that that knowledge of the laws of nature discovered in a certain place at a certain time can be applied in another place and at another time, because they are the same there. In other words, the results of scientific research do not depend on the place and time of this research, so the results of this research can be applied in another place and at another time. Therefore, it makes sense to conduct scientific research.

In works [25, 26, 27], the author considers the possibility of generalizing and applying the principles of relativity in other sciences besides physics, for

example in economics, as well as not only in ordinary but also in virtual reality [11].

In [25], the position was substantiated that in the regional economy there are certain areas (territories) in which the same economic laws and economic conditions apply, and for these regions the principle of relativity is satisfied. We will call such regions ergodic regions. In different microzones of ergodic regions, economic laws and economic conditions may differ quantitatively, but remain qualitatively the same. Therefore, it is possible to study economic laws in one microzone of an ergodic region and reasonably extend the findings to the entire ergodic region. This means that the ergodic region is the general population for each of its microzones, which are representative of their ergodic region.

Further, in [25], the hypothesis is substantiated that it is possible to generalize to economic processes and phenomena the fundamental theorem of Emmy Notter on the laws of conservation of momentum, angular momentum and energy, resulting from the properties of homogeneity and isotropy of physical space and time.

Within ergodic regions, economic space-time can be reasonably considered homogeneous and isotropic with a high degree of accuracy. From this follows the assumption that conservation laws similar to physical conservation laws operate within these regions.

However, the economic principle of relativity, and hence the economic laws of conservation, are violated when crossing the boundaries of ergodic regions and moving from one ergodic region to another.For this reason, something like a perpetual motion machine is quite possible in the economy when commodity, financial, energy and information flows cross the borders of erogonic regions. Moreover, this effect is maximum when these flows move in the direction of the maximum gradient of changes in the laws and is minimal when flows move along the boundaries of ergodic regions and isolines along which these laws do not change or change minimally.

In addition, the boundaries of ergodic regions are dynamic in space. Most often, the boundaries of ergodyne regions coincide with the boundaries of states and can change as a result of wars and the creation of various military, political and economic unions and associations, for example, with a common currency, a common army and a common border (for example, NATO and the European Union).

Moreover, economic laws within ergodic regions are dynamic over time, i.e. Even in the same ergodic region, different economic laws operate at different times. The period of time during which practically the same economic laws apply in an ergodic region will be called the ergodicity period. Periods of ergodicity have a relatively long duration. Some periods of ergodicity are replaced by others at bifurcation points, which represent periods of qualitative, revolutionary changes in laws. Bifurcation points have a relatively short

duration. For example, such bifurcation points are the great October socialist revolution, the creation in 1922 and the collapse in 1991 of the Soviet Union, as well as the default in Russia in 1998.

2.2.2. Observability principle

The principle of observability in the context of scientific research states that phenomena and objects must be observable or measurable by several independent methods in order to be considered to exist objectively within the scientific method.

The principle of observability is a criterion of objective existence [6].

This principle emphasizes the importance of empirical data, observations, and experiments in the formation of scientific theories and conclusions.

Key aspects of the observability principle include:

1. Empiricism: The principle of observability is based on empiricism - the approach that knowledge comes from experience and observation. What can be measured, observed or experimentally verified is considered more reliable.

2. Experiments and Observations: An important part of the scientific method is the conduct of experiments and systematic observations. Experiments provide the opportunity to create controlled conditions for studying phenomena, and observations provide the opportunity to collect data about real-life events.

3. Testability and Repeatability: Scientific theories must be testable and testable based on empirical data. This allows other scientists to repeat the experiments or conduct new studies to check the consistency of the results.

4. Falsification: The principle of observability also includes the idea of falsification - the ability to disprove a scientific theory when there are observations or data that contradict it. This emphasizes the openness of the scientific approach to changing and correcting theories based on new data.

The principle of observability is a key element of the scientific methodand provides the basis for the development of scientific theories that can explain and predict phenomena in the world around us.

2.2.3. Principle of correspondence

A scientific principle within the scientific method states that a new theory should be consistent with the results of previous theories in their domain of application when the conditions of that domain of applicability hold. Thus, the new theory must proceed to the already established results of previous theories to the extent that these previous theories have proven their validity.

In the context of various scientific theories, the correspondence principle represents a kind of transitional concept between old and new theories, ensuring continuity in the understanding of physical phenomena. For example, quantum mechanics and relativistic physics make the same predictions as classical mechanics at low speeds for macroscopic objects.

The principle of correspondence ensures the continuity of scientific theories and allows new ideas and models to be introduced while maintaining consistency with established observational results. This is important to maintain the stability of the scientific foundations and to ensure that new theories are not only theoretically convincing, but also consistent with the empirical data obtained from previous experiments and observations.

2.2.4. Popper's principle as a strict criterion for the scientific nature of theories and Russell's teapot

Popper's principle is a strict criterion for the scientific nature of theories.

According to Popper's principle, a scientific theory must be formulated in such a way that it can be falsifiable, that is, put forward propositions that can be subjected to empirical testing and, in principle, refuted on the basis of the results of this testing.

Thus, according to Popper's principle, a theory can be considered scientific only if there are specific experiments or observations that can refute it.

Bertrand Russell offered a very clear and wonderful example of a hypothesis that is unscientific in accordance with Popper’s principle, i.e. a hypothesis that, in principle, cannot be refuted empirically.

We present Russell's hypothesis in a slightly modified form. So, Bertrand Russell proposed a hypothesis that states that in the asteroid belt between Mars and Jupiter there is currently no shiny stainless steel teapot orbiting with asteroids in orbit around the Sun.

Let us note that the non-existence of just such a Russell teapot there seems completely obvious to all so-called “sensible” people, including the authors.

However, Russell emphasized that the inability to refute this claim empirically makes it an unscientific claim.

Let us imagine that in order to refute (as Popper called “falsification”) this assertion about the non-existence of just such a teapot there, mankind designed, created and sent into the asteroid belt between Mars and Jupiter a spacecraft with a special mission to prove empirically that exactly such a teapot as described Russell, there really aren't any asteroids in the belt. And during its mission, this device really did not detect such a teapot in the asteroid belt. If he had discovered it, he would have refuted Russell's assertion and thereby made it scientific.

From Popper's principle and Russell's remarkable example, an equally remarkable conclusion follows that any statements about the non-existence or impossibility of the existence of any phenomena or objects are not scientific. It’s impossible not to recall the instructive decrees of the French Academy of Sciences on the fundamental impossibility of the existence of aircraft heavier than air, meteorites and perpetual motion machines [26].

Two natural questions arise here.

*Question 1:*the question is, does this result prove that there really is no such teapot there? Of course it doesn't prove it. Maybe this spacecraft flew past Russell's teapot when its cameras were pointed in a different direction from the teapot.

*Question-2:*Is it possible to reasonably claim that there is, in principle, an empirical way to refute Russell's teapot statement, even if this way is currently unknown and inaccessible to us? According to the authors, there is, in principle, no such method that would be guaranteed to refute Russell's statement about the teapot. True, taking into account the above, it is not clear whether the previous statement itself is scientific, because this is a statement about the non-existence of a general and universal guaranteed method of establishing scientificity. But here we are already faced with Russell's logical paradox, which indicates the limited capabilities of the intellectual form of knowledge.

But statements about existence are scientific, because. objective existence can be reliably established in accordance with the principle of observability and even in virtual reality [11].

The example of Russell's teapot illustrates the need to be able to offer observable data or experiments that could confirm or refute a hypothesis. In the case of Russell's teapot, no such evidence can be offered, making his hypothesis meaningless in a scientific context.

Popper's principle and Russell's teapot example aim to establish strict and testable criteria for scientificity and eliminate vague, irrefutable statements from the scientific method.

2.2.5. Ashby's principle

The work [21] considers a nonlinear generalization of William Ross Ashby's principle and substantiates the position that this principle is an important methodological principle of cognition, reflecting the fundamental limitations of the capabilities of cognition. This principle reflects the almost obvious relationship between the complexity of the object of knowledge and the complexity of its knowledge: the more complex the system, the more difficult it is to know it. If two systems interact, then they, in fact, reflect each other, and at the same time, the more complex system adequately reflects the simpler one, and the simpler one inadequately reflects the more complex one, i.e. reflects, but only in the form of projection [21, 22, 23].

A projection is a mapping of a multidimensional object into a space of fewer dimensions. Projection is an inadequate display, because it causes an irreversible loss of information about the displayed object. Since the complexity of the world is incomparably higher than the complexity of man as a subject of cognition, the reflection of the real world in our minds also has the character of a projection, and at the same time, a loss of information about the object of cognition inevitably occurs. This form of limited possibilities of our knowledge

was most clearly described by the greatest Greek philosopher Plato in the famous Myth of the Cave[1].

This well explains the fact that scientists have not yet created any adequate theory of higher forms of consciousness and prospects for the development of man, technology and society. Moreover, the terminology of concepts adequate to solve this extremely promising problem has not even been developed. The author in a number of works tried to do something to solve these problems, or at least to create the ground for this [21, 6]. The fact is that scientists usually work in the physical form of consciousness and people in higher forms of consciousness are realized in their simplified, limited and flawed models, which have the character of projections that are more complete and adequate to reality, characteristic of higher forms of consciousness. For approximately the same reasons, not only cats, but even lions and tigers cannot build an adequate model of the development of human society and the change of technological structures, organizational, economic and political structures, the change of scientific and ideological paradigms in the development of mankind.

2.2.6. Law of negation-denial

The law of negation-negation is one of the basic methodological principles of dialectical logic developed by Hegel and further developed in materialist philosophy, in particular in the works of Karl Marx and Friedrich Engels. This principle represents the logical basis of dialectics and reflects an important aspect of the process of cognition and change in phenomena.

The principle of the law of negation-negation for evolving systems can be formulated as follows:

Teza: This is the initial position or state of the system.

Antithesis: This is the opposite or contradictory state of a thesis, which includes contradictions and conflicts.

Synthesis: This is a new state that arises from the unification of thesis and antithesis, overcoming and integrating their contradictions.

The principle of negation-denial emphasizes that development does not occur linearly, but through contradictions and their overcoming and resolution. Each stage of development, criticized and negated, leads to the creation of new forms and relationships.

This methodological principle of knowledge provides a tool for analyzing change and development, focusing on the contradictions that drive change in the world.

[1] https://yandex.ru/search/?text=Plato%20myth%20o%20cave&lr=35

2.3. Sciences based on the application of the method of scientific induction

The method of scientific induction is widely used in various scientific fields, primarily in the natural sciences.. Therefore, it would not be an exaggeration to call the method of scientific induction a natural scientific method. Some of the sciences in which this method of scientific induction is most common include:

1. Physics: In physics, the method of scientific induction is used to formulate physical laws and principles, such as Newton's laws or laws of thermodynamics, based on experimental data and observations.

2. Chemistry: Chemists use the method of scientific induction to identify general patterns in chemical reactions, the structure of substances and other aspects of chemical phenomena.

3. Biology: In biology, the method of scientific induction is used to identify patterns in the behavior of living organisms, evolutionary processes, genetics and other areas.

4. Economics: In economics, the method of scientific induction is used to analyze economic phenomena, formulate economic theories and models based on empirical data.

5. History and Sociology: Historians and sociologists use this method to study social phenomena, formulate sociological theories and analyze social structures.

2.4. Sciences in which the method of scientific induction is used insufficiently or at all not applicable

The method of scientific induction is used in many scientific disciplines, but there are cases where its use may be limited or even inapplicable:

1. Mathematics: Mathematics is dominated by the deductive method, based on logical deductions from axioms and definitions. In this discipline, inductive methods can be used to formulate hypotheses and generate theories, but deductive methods usually predominate. Let us note that as the form of consciousness increases, the relationship between theory and practice, theoretical and empirical, abstract and concrete changes. As a result, what in the most common form of consciousness at present is recognized as a theoretical abstract, for example, mathematical truth, in higher forms of consciousness can be recognized as an object of direct sensory perception, i.e. subject of empirical knowledge [6, 7].

2. Logic: The field of logic, especially formal logic, uses the deductive method to identify logical laws and conclusions from premises.

3. Philosophy: In some areas of philosophy, the application of the method of scientific induction may be less explicit. Rather than relying on empirical evidence, philosophy may make more use of reasoning and conceptual analysis.

4. Engineering Sciences: In some cases, engineering sciences may focus on the application of technology and engineering methods, without always relying on the rigorous scientific method characteristic of the basic sciences.

5. Artificial Intelligence, Information Science and Computer Science: These fields are dominated by an experimental and engineering approach aimed at creating and optimizing programs and systems rather than formulating general laws. In some aspects, artificial intelligence research may involve more engineering techniques and empirical experience. This gap is filled by the information-functional theory of technology development developed by one of the authors (Lutsenko E.V., 1979-1981) [6, 7].

These examples do not mean that inductive methods are absolutely inapplicable in these areas, but only indicate that the proportion of use of the method of scientific induction may be less pronounced or more combined with other methods.

According to the authors, one of the most promising directions for the further development of these sciences is a more complete and systematic application of the method of scientific induction.

III. Results: criteria for the classification of consciousness, definition and classification of consciousness

3.1. Prospects for using the method of scientific induction in the study of individual consciousness

1.3.1. Scientogenesis: the logic of the emergence of specific sciences from the prescience of philosophy

Science is a social institution whose goal is to obtain new fundamental knowledge about nature, society and man (fundamental science), as well as the application of this knowledge to solve specific problems in various subject areas (applied sciences).

Science becomes science when it has its own specific object and subject of research, and its own method of research. One of the stages in the emergence of a new science is the emergence of a scientific school.

The history of the development of science tells us that this research method is the method of scientific induction, which, as we saw above, has every reason to be called the natural scientific method.

Scientogenesis is the process of formation and separation of specific sciences from the pre-science of philosophy. The process of scientogenesis usually includes several key stages:

1. Philosophical stage: At the initial stage of development, researchers often engage in philosophical reflections and generalizations. Ideas and concepts are formed in the field of philosophy, where basic principles and approaches are discussed.

2. Scientific-philosophical (metatheoretical) stage: Over time, philosophical ideas begin to take on a more specific form associated with scientific research. During this period, there is a smooth transition from abstract concepts to more specific topics and a specific subject of study.

3. Empirical stage: With the development of the scientific method and technological capabilities, active empirical research begins, i.e. observations and experiments [21]:

– collection of facts;

– formulation of empirical regularities (the scope of applicability of an empirical regularity is the specific scientific research in which they were discovered);

– formulation of empirical laws (the scope of applicability of empirical laws is the entire subject area in which it is confirmed).

4. Theoretical stage: formulation of scientific (theoretical) laws. Scientific hypotheses that explain the mechanisms of implementation of the patterns reflected in empirical laws are tested through experiments and observations. If these hypotheses turn out to have predictive power, i.e. make it possible to predict the existence of new previously unknown natural phenomena, then the status of these hypotheses rises to the level of scientific theories. The theoretical scientific law is formulated as follows: everywhere and always, where and when such and such specific causes of such and such phenomena and processes operate, there these causes will always give rise to these consequences. The area of applicability of a theoretical law is the entire area of reality in which the causes of the phenomena indicated in it operate. It is clear that this entire area cannot, even in principle, be studied empirically.

5. Formation of a concrete science: Gradually, on the basis of successful experiments and confirmed hypotheses, a concrete science is formed. At this stage, specific methods and principles are identified that become characteristic of the new scientific field.

6. Independent development: As soon as science becomes independent, it develops independently of philosophical origins. At this stage, science develops according to its own laws and methods. These laws of the development of science are open and brilliantly, although not without methodological shortcomings, described in 1962 in Thomas Kuhn’s monograph “The Structure of Scientific Revolutions” [20].

It should be especially noted that scientogenesis itself is very, very similar to the method of scientific induction. Therefore, the process of the emergence and development of sciences can be considered a historical process of knowledge.

The process of scientific genesis is a complex and multifaceted process and differs for different sciences, primarily in the time when it occurs, because sciences are distinguished by the complexity of the object of study. In general, the simpler the object of research, the earlier historically its research becomes

scientifically grounded, i.e. It becomes possible to apply the scientific method to study this object.

In general, scientific genesis reflects a gradual transition from a general philosophical position to a specific and independent science. This transition occurs as the scientific method is applied to knowledge of more and more complex subjects of study, previously studied only within the framework of philosophy. Various sciences were separated from the pre-science of philosophy in approximately the following order:

1.Physics.
2. Chemistry.
3. Biology.
4. Economics.
5. History and sociology.
6. Dialectics, logic and theory of knowledge (theory of consciousness).
7. The main question of philosophy.

Therefore, according to the authors, one of the most promising directions for the further development of these sciences is a more complete and systematic application of the method of scientific induction.

1.3.2. The main question of philosophy, dialectics, logic and the theory of knowledge as the last stronghold of pre-scientific thinking

With the emergence of new sciences, the subject of philosophy narrows, since part of the subject of philosophy becomes the subject of study of these new specific sciences. Concrete sciences provide a deeper, more detailed, reliable and demonstrative study of the subject of knowledge than was possible in philosophy. As a result of this process of the emergence of sciences through their separation from the pre-science of philosophy, at present the subject of philosophy is only the basic question of philosophy, dialectics, logic and the theory of knowledge, which for this reason represent the last stronghold of pre-scientific thinking.

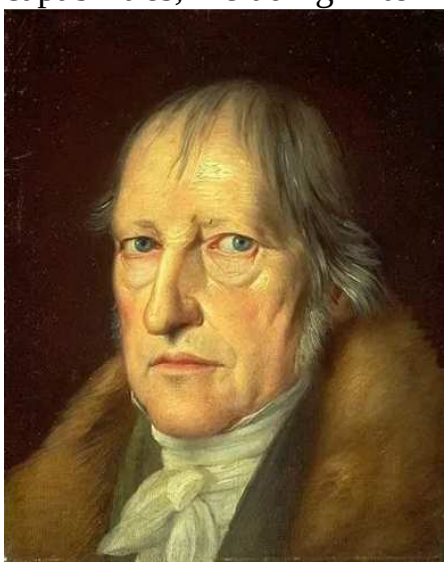
When the scientific method is applied to the knowledge of not only matter (which has already been done), but also consciousness, as well as to the study of their relationship, i.e. to the formulation and solution of the main question of philosophy, then nothing will remain of philosophy, because all her subjects of study will be studied by specific sciences. As a result, in essence, the “end of philosophy” will come, at least in the form in which we know it from ancient times to the present [6]. But it is premature to worry too much about this at present, because... this will become really possible only with higher forms of consciousness, in which other forms of knowledge will become available to people, in particular, intellectual truth will become the subject of direct perception (i.e. this is not soon) [6, 21].

1.3.3. The insufficiency of the theory of knowledge and the need for a theory of consciousness

The modern theory of cognition is based on the study of the forms of cognition that exist in the usual, currently most widespread form of consciousness, which does not even have a scientific name, because modern science does not know the classification of various forms of consciousness, including both lower forms of consciousness than the most widespread one and higher forms of consciousness than it.

The overwhelming majority of “Western” scientists and philosophers have worked and are working in this most widespread form of consciousness, and most often do not have the slightest idea about the rest, especially higher forms of consciousness.

Meanwhile, these higher forms of consciousness have qualitatively higher capabilities, including in terms of knowledge of the internal and external world.



1770, Stuttgart - 1831, Berlin

This applies even to the most outstanding, even brilliant European philosophers, for example Georg Wilhelm Friedrich Hegel.

The situation is different with the creators of Indian philosophical systems [4, 5]. Philosophical systems in the Indian tradition have a long and varied history, and their creators, known as maharishis (great sages) or mahagurus (great teachers), are often described as having deep understanding and higher forms of consciousness in the context of their spiritual practices.

For example, in the system of yoga and Advaita Vedanta, sages such as Patanjali and Adi Shankara are considered outstanding teachers who have achieved higher forms of consciousness.

If we consider the harmonious and logically developed teaching of Hegel through the prism of the philosophical systems of these great teachers of the East, then Hegel is not a brilliant philosopher, but simply an aged, very talented boy who does not have any basic education and personal experience in higher forms of consciousness and is not even aware of them existence. Meanwhile, such education and such experience are critical, i.e. absolutely necessary for solving the problems he was trying to solve.

In the Western philosophical tradition, it is believed that cognition is the process of obtaining knowledge about the world, society and man. This process includes various forms, methods and stages.

Forms of knowledge:

1. Empirical knowledge: observation and experiments.

2. Theoretical knowledge: a systematic idea of the world, based on logic and abstractions, hypotheses, theories, models.

3. Practical knowledge: application of knowledge in specific situations, solving problems by applying scientific results.

Methods of cognition:

1. Scientific method (method of scientific induction, natural scientific method): systematic research using observations, experiments and logical analysis. Formulating a hypothesis, conducting experiments, analyzing data.

2. Logical method: using logic to identify patterns and following strict laws of thinking. Deductive axiomatic theories.

3. Empirical method: Based on observation and experiment. Data collection, observation of phenomena.

Stages of cognition:

1. Sensory perception: primary perception of information through the senses. Vision, hearing, touch, smell, taste, measurements using information and measurement systems.

2. Concept: the formation of generalized and abstract ideas about objects and phenomena.

3. Thinking: operating with concepts (reasoning), logical analysis (logical operations) and conclusions.

4. Memory: remembering and storing information for long-term use.

5. Speech: expression of thoughts in the form of oral and written speech and other coding systems (verbalization) for the purpose of storing and transmitting (communication) knowledge to people and artificial intelligence systems.

In higher forms of consciousness, there are also largely similar forms, methods and stages of cognition, but their content changes significantly and naturally [6]. In particular, in higher forms of consciousness the content of basic concepts changes:

– “objective”, “subjective” and “non-existent”;
– “empirical” and “theoretical”;
– “concrete” and “abstract”;
– “I” and “not I”, “I” and “environment”;
– “internal” and “external”;
- "space and time".

The content of almost all other concepts also changes.

Let us briefly consider how the content of these stages of cognition changes during the transition to higher forms of consciousness.

Sensory perception.

Specifically, in a form of consciousness directly higher than the most widespread one at present [6, 28], in an empirical form, i.e. through direct

perception, those objects of the internal and external world are cognized, which are currently recognized by us only in a subjective form as our feelings and emotions.

With an even higher form of consciousness [6, 28], in an empirical form, i.e. through direct perception, those objects of the internal and external world are cognized that are currently recognized by us only in a subjective form as our thoughts. This means that with this form of consciousness we directly perceive what we currently know as a result of intellectual cognition, i.e. abstract logical thinking. For example, in the currently most widespread form of consciousness, through direct sensory perception, we cannot know what an integral is, and for this, an intellectual form of cognition and abstract logical thinking are currently needed. And with this higher form of consciousness, what such an integral is is known precisely as a result of direct sensory perception. It is clear that through perception, what an integral is is learned much faster than through intellectual cognition and abstract logical thinking.

Concept.

In the highest forms, generalized and abstract ideas about objects and phenomena are the subject of direct sensory perception and are recognized as objects of the environment. Plato called these objects “Eidos” and believed that objects of the physical world are projections of Eidos into the space of a smaller number of dimensions. He described it brilliantly in his famous dialogue: “The Cave.”

Thinking.

In the usual form of consciousness, thinking is recognized as a subjective process of operating with concepts (reasoning), logical analysis (logical operations) and conclusions. In the highest form of consciousness, thinking is something similar to what is called physical labor in the ordinary form of consciousness, i.e. This is the process of operating objects of the external world with the help of means of labor. What kind of means of labor are considered by the authors in a yard of works, first of all [6], which provides information and functional diagrams of 5 means of labor that have already been created in the history of our technological civilization in previous and current socio-economic formations, and another 11 means of labor of future forms society. The authors have made special systematic efforts to maximally specify technical solutions for the means of labor of the near future [6, 7].

Memory.

In the ordinary form of consciousness, memory is viewed as the cognitive function of remembering and storing information for short-term and long-term use. In higher forms of consciousness, time is perceived spatially, i.e. objects, process and phenomena of the future and past are realized as existing in different material (phase) states in different places in space, of a greater number of dimensions than in the usual form of consciousness [29].

Therefore, in higher forms of consciousness, what we usually call memory can be, in particular, direct perception of the past, and not only the past, but also the future (“memory of the future”), especially since the division into the future and the past is relative [6].

Speech.

The expression of thoughts in the form of speech (verbalization) represents the first stage of formalization of subjective models [1? 2]. In the usual, currently most widespread form of consciousness, we are aware only of our own subjective models, and we are not aware of the subjective models of other people. Therefore, in order to transfer subjective models to other people and artificial intelligence systems, it is necessary to objectify these models, i.e. transform them into an objective form that other people are aware of and can perceive by modern artificial intelligence systems.

But with higher forms of consciousness, the content of the categories “objective” and “subjective” changes and their own currently perceived as subjective models begin to be recognized as objective. Also, the models of other people, which they are currently aware of as subjective, begin to be recognized by us in higher forms of consciousness as objective. Therefore, there is no need to increase their degree of formalization to an objective level for transmission to other people.

However, there remains a need to increase the degree of formalization of our subjective models to an objective level in order to transfer them to modern artificial intelligence systems. Therefore, the authors have been for more than 40 years at all levels in addition to targeted comprehensive programs[2], USSR applications for inventions and scientific publications offer technical systems with a direct “Soul-computer” interface, which can be controlled using the same human-machine interface with which we control our physical body [2, 6, 7, 10] .

It would seem that all this gives people in higher forms of consciousness enormous advantages over people in the usual most common form of consciousness at present in achieving various goals [6]. This is true, but there is one very significant point that does not allow us to say this. This point is that when higher forms of consciousness are achieved, goals, values and motivations usually change radically. Therefore, the goals that people set for themselves in the ordinary form of consciousness in higher forms of consciousness are assessed by them as childish goals, such as when I grow up, I will buy myself a lot of ice cream and eat it all. Therefore, if you set yourself a goal before transitioning to a higher form of consciousness and then move into it, then usually a person, although he remembers this goal, completely loses interest in it and completely strives to achieve it. At the same time, he has new goals that correspond to the form and level of his consciousness. Achieving in higher

[2] http://lc.kubagro.ru/aidos/LC_young-3/LC_young-3.htm#_Toc200963234

forms of consciousness those goals that were set in lower forms of consciousness, from the point of view of ethics accepted in these higher forms of consciousness, often looks inadequate, completely inappropriate and would be funny if it were not sad or even criminal.

Therefore, the classical theory of knowledge, developed in modern Western philosophy, is completely insufficient for solving current and promising problems of human development and technology, and it is necessary to develop a more complete theory of consciousness, which would consider various forms of consciousness and various forms, methods and stages of cognition possible with these forms of consciousness.

1.3.4. From postulating a solution to the fundamental question of philosophy to its formulation and solution by the method of scientific induction

Philosophers usually do not bother themselves with any evidence of this or that solution to the main question of philosophy, but simply postulate a certain version of its solution and then develop their philosophical concepts on the basis of the adopted solution in an axiomatic way. Only occasionally do they vaguely say that the correctness of the solution they propose is proven “by the entire course of world history.”

Meanwhile, the main question of philosophy today, by the very course of technological progress, is posed as a practical question that humanity needs to solve in order to move to the next qualitatively new stage of its development: the seventh information revolution [1, 2, 3, 6]. At the same time, coherent and consistent fundamental ideas must be developed from a single point of view, describing the entire complex and multifaceted process of this transition.

Natural scientific formulation of the scientific fundamental question of philosophyis as follows [6]:

– firstly, to obtain particular solutions to the main question of philosophy by empirically examining all known and actually accessible forms of consciousness for empirical research;

– secondly, for each of the empirically studied forms of consciousness, determine what is primary: objective or subjective, i.e. formulate an empirical pattern, and then generalize this pattern to the level of an empirical law;

– thirdly: to analyze the empirical material accumulated during the experimental study of various forms of consciousness and, on this basis, formulate a scientific hypothesis about the reasons for observing the patterns reflected in the empirical law;

– fourthly, to produce a natural scientific generalization of particular solutions to the main question of philosophy and bring this generalization to the level of a theoretical scientific law applicable to all forms of consciousness in which the causes of the observed empirical patterns formulated in the hypothesis operate, i.e. obtain a natural scientific solution to the basic question of

philosophy. This theoretical scientific law, which is the result of a natural scientific formulation and solution of the main question of philosophy, will also contain a specific answer to the question of whether truth is knowable and answers to many other questions of the theory of consciousness (to which the theory of knowledge will be developed).

3.2. Information essence of the labor process

Apparently, historically, Aristotle (384-322) was the first to formulate the idea of the informational essence of the labor processBC), who said that the essence of labor lies in giving shape to the material and gave the example of a potter who embodied the idea of a jug in clay using a potter's wheel. Form is objectified information about a structure contained before its embodiment in a subjective idea.

It should be noted that the idea of the informational nature of the labor process was formulated by K. Marx in the section “Development of Machines” of Capital approximately 60 years before the creation of the scientific theory of information in the works of Ralph Hartley in 1928, i.e. approximately 156 years ago. Therefore, today we will express the ideas of K. Marx in slightly different terms than in his works. As a result, we obtain the following formulations.

Before starting the labor process, a person creates a subjective image of the future product of labor. During the labor process, information from this subjective image is transmitted and recorded into the object of labor, and during this process it is transformed into a product of labor.

During the labor process, the subjective image of the product of labor is embodied in the material.

In this process, there is a multi-stage transformation of the form of information and an increase in the degree of formalization of the subjective model. Each stage corresponds to one labor function.

The human body and means of labor act as a channel for transmitting information from the subjective image of the future product of labor to the subject of labor.

So, the means of labor are, first of all, information systems. This is their essence and main function. Everything else, i.e. design, materials and energy - all this is needed only to support the process of transferring and transforming the form of information and for recording it into an object of work in order to change its structure.

In this communication channel, the form of information is transformed (representation language or coding system), as well as the transformation of information from a subjective form to an objective one.

Today, when so many people work with the help of computers via the Internet, the informational essence of the labor process has been laid bare and has become self-evident to everyone. And before, everyone paid attention to the fact that during work you get tired and sweat, i.e. paid main attention not to the

function of transforming the form of information and intellectual functions, but to the function of transforming the form of energy, because engine function.

Let us note that in the process of cognition, on the contrary, information from an objective form is transformed into a subjective one and transferred to the created subjective model of the cognizable object.

The point of transformation of the subjective into the objective and the objective into the subjective is currently unknown to official science, as is the very nature of this transformation. This problem is called a psychophysical problem. In work [6], the author proposed its solution within the framework of a natural science formulation and solution to the main question of philosophy.

3.3. Information-functional theory of technology development

3.3.1. The law of independence of functions from the structures that support them

The fundamental law underlying the development of our technological civilization is known; this is the law of independence of functions from the structures that support them: “the same functions can be supported by different structures.”

For example: in the human body, the engine function (converting one form of energy into another) is realized by the digestive and musculoskeletal systems, and in a car the same function is realized by burning fuel in combustion chambers.

3.3.2. The law of transfer of labor functions from man to means of labor (Karl Marx, 1867)

Technological progress consists in creating means of labor of a higher functional level by transferring to them labor functions previously performed by humans.

Labor functions according to Karl Marx [30]:

1. Function of contact with the subject of labor.
2. Function of transfer and redistribution of energy (transmission function).
3. The function of transforming a simple monotonous movement into a complex, purposeful one that does work (work function).
4. The function of converting one form of energy into another (motor function).

The means of labor perform the same functions that a person performed before using them. But they perform these functions outside of human psychophysiological limitations. In addition, technological progress occurs immeasurably faster than biological and psychological progress. This is the meaning and expediency of creating means of labor and their application in practice.

If Karl Marx:

– I would ask the question whether in the future the development of means of labor will continue by transferring to them some other human functions that he realizes in the labor process;

– and would answer this question in the affirmative;

– and formulated that the next 5th labor function of a person is, in fact, the mental function of transforming information, thinking and goal setting (added to the system of labor functions of Karl Marx in 1979 by Prof. E.V. Lutsenko, along with another 11 labor functions functions in work [6][3]);

then Karl Marx could become a real forerunner (“great-grandfather”) of modern and future computer and intellectual three-legged creatures created during the 7th information revolution [1, 2, 3, 6].

But, unfortunately, he did not write anything about it. At the same time, the authors are absolutely sure that he thought about this and understood it, but did not write it in his fundamental works, apparently because he considered it insufficiently scientifically substantiated or that the time had not yet come for this, or 1st, and 2 at the same time, which is most likely what actually happened.

In fact, he said that in the future society, knowledge and science will become a direct productive force, and intelligent systems are precisely systems that transform empirical data into information, and this into knowledge, and solve problems of identification and forecasting based on this knowledge , decision making and exploration of the subject area by examining its model. Simply put, artificial intelligence systems are tools that repeatedly, even by many orders of magnitude, increase people’s ability to obtain and use knowledge.

Labor functions can be transferred from a person to technical systems only in a strictly defined order, namely in the way they are listed in this work. The reason for this is approximately the same as why we cannot remove the inner one from the assembled nesting doll until we open the outer one.

3.3.3. Determination of the economic and political form of society by the functional level of the technological environment

When the next labor function of a person is transferred to means, a technological revolution occurs (the technological structure of society changes), which inevitably causes a revolution in production relations, economic and political structures of society, and therefore a transition of society to a new socio-economic formation, a group of socio-economic formations and

[3]All labor functions transferred to the means of labor, starting from the 5th, are mental functions performed by the Human Soul and, in the currently most widespread form of consciousness, are recognized as subjective. But in the future, with higher forms of consciousness, when they are transferred to the means of labor, they will be perceived as objective [6]. This means that all future technical systems will have a partial artificial soul (psyche) created by man, first in the nearest group of emotional formations, and then in the next group of formations and rational.

corresponding to the most widespread form of consciousness (stage of social cognition) [6].

3.3.4. Law of improving the quality of the basis (E.V.Lutsenko, 1979)

The development of systems occurs by resolving contradictions in the lowest structural level of the hierarchical organization in which they still exist (basic level). When contradictions at the basic level are resolved, the system moves on to development by resolving contradictions at a directly higher level than the previous one, which becomes the basic level.

In accordance with this law, the technological society has moved into the information society, and now it is transitioning to the cognitive society, i.e. knowledge-based society.

3.3.5. Intelligent systems as remote microtelekinetic control systems (Soul-computer interface)

In 1979-1981, the author developed an information-functional theory of technology development, on the basis of which functional diagrams were obtained for both 5 already created in human history and 11 more promising technical systems, the creation of which is a matter of the future, and for one of these promising systems technical (engineering) solutions: this is a remote micro-telekinetic control system.

Telekinesis is the direct influence of the soul on objects and processes of the physical world (usually at the micro level) and is the way in which the Soul affects the physical body.

Today, more than 40 years later (!!!), Microsoft has received a patent for a similar, but only to a certain extent, “Telepathic Interface” system. Today, 40 years after these proposals by the author, intensive research and development in the field of neural interfaces, Brain-Computer interfaces (telepathic keyboard, thought control) are intensively carried out all over the world[4].

However, judging by the materials of the open press, world-class scientists in this field are still looking for solutions at random, because do not have a fundamental information-functional theory of the development of productive forces, proposed by the author 40 years ago, from which such decisions follow. Their technical solutions in many important parameters are also still very far from the author’s proposals.

A number of these promising systems, proposed by the author more than 40 years ago, supporting the “Soul-computer” interface (term.aut.), will actually feel and think, and not just model these processes, like modern artificial intelligence systems. However, this is a perspective that is far beyond the scope of this brief paper [10].

[4]There is some information about this on the website:http://2045.ruand from the links:https://yandex.ru/search/?text=Telepathic%20interface%20neuralinterface%20Brain-computer&lr=35

3.4. Determination of the forms of individual consciousness by the functional level of the technological environment

The functions transferred to the means of labor are realized by them outside the biological and psychophysiological limitations of humans. When using a means of labor of a certain functional level, a person learns not to perform the functions transferred to this means of labor, and the remaining functions are performed by the person without the restrictions associated with the need to perform the transferred functions. As a result, a person is partially freed from the labor process, moves away from it somewhat to the side, and a new, adequate “Image - I” and consciousness are formed in him. They change in such a way that the labor functions transferred to the means of labor cease to be recognized by a person as an attribute of the “image - I” [6].

3.5. Functional criteria for classifying forms of natural consciousness and functional definition of consciousness

Functions are supported by structures. But the same functions can be supported by different structures.

This is the most important law, on the basis of which the entire development of our technological civilization is based in the most significant way, because the entire development of technology is based on the transfer of human labor functions to means of labor [1, 2, 3, 6].

Definitions can be given either functional or structural. Structural ones are usually worse.

Examples.

Functionally An engine is defined as a device that converts one form of energy into another. Specifically, an internal combustion engine converts chemical energy into mechanical energy, and an electric engine converts electrical energy into mechanical energy. There are many other types of engines.

Structural The definition of an internal combustion engine might be something like this. There are combustion chambers into which an air-droplet mixture of fuel is injected through a gas distribution mechanism and the electric ignition system ignites this fuel at the right moments, which sets the pistons in motion, and they, in turn, the crankshaft.

It must be clearly understood that the structural definitions of other types of engines can be very different from each other, although functionally they are essentially identical. Apparently, Karl Marx was the first to understand this [30].

According to the authors, of course, there are certain structures that support consciousness, but defining consciousness through them is a thankless task, because in this case, different definitions will be obtained for different forms of consciousness.

For physical consciousness, its “definition” looks plausible: it is a function or a systemic (emergent) property of matter organized in a special way

- the brain. But the complete delusion of this definition becomes completely obvious during out-of-body experience, in particular the experience of clinical death, and during experience in higher forms of consciousness.

Recently, many serious scientific works have appeared devoted to the development of the quantum concept of the physical foundations of consciousness [34, 35, 36]. The question is, how should we treat them?

According to the authors, in comparison with the structural approaches to understanding the nature of consciousness that prevailed at different times (structural dogma), for example, such as the mechanical, chemical, biological, social, electromagnetic, informational (in particular neural network) nature of consciousness, this is certainly , a definite step forward in understanding the nature of consciousness. However, this step forward does not allow one to break out of the boundaries of structural dogma, and therefore does not add anything new to the understanding of the functional nature of consciousness.

At different times, different views on the nature of consciousness prevailed. What were the reasons for these views? It is noteworthy that various structural concepts of consciousness appeared exactly where and exactly when, where and when various sciences were separated from the pre-science of philosophy and exactly in the same order in which these sciences arose:

1. Physics (represented primarily by mechanics).
2. Chemistry.
3. Biology.
4. Economics.
5. History and sociology.
6. Dialectics, logic and theory of knowledge (theory of consciousness).
7. The main question of philosophy.

So, we can make a reasonable conclusion that scientific structural definitions of consciousness in various specific sciences are unpromising. What about philosophical definitions of consciousness?

As an example, we can consider Lenin’s definitions of matter and consciousness can be considered through the prism of his philosophical views, set out in the work “Materialism and Empirio-criticism” [].

1. Matter: Lenin defined matter as an objective reality that exists independently of consciousness. For him, matter is the basis of all things, including consciousness. Matter necessarily exists in an objective form, regardless of whether a person is aware of it or not. It represents an objective reality that has properties, laws and phenomena.

2. Consciousness: Lenin emphasized that consciousness is not an entity independent of matter. He rejected idealistic views, arguing that consciousness arises on the basis of material processes in the brain. Consciousness for Lenin is a reflection of objective reality, the material world, and its formation is determined by material processes in the human body.

So, according to Lenin [37], matter is an objective reality that exists outside and independently of consciousness, and consciousness is a subjective reflection of this objective reality, i.e. matter. This can be considered the generally accepted point of view.

However, according to the authors, to define the concept of consciousness through the concept of matter, and the concept of matter through the concept of consciousness, as is now customary in philosophy, cannot be considered a definition at all. This is the same as “defining” bread as what you spread butter on when making a sandwich, and “defining” butter as what you spread on bread when making a sandwich, and at the same time not only failing to explain what it is. sandwich,” but not even mention it at all.

So, the study of the nature of consciousness and the definition of consciousness can be approached in different ways, as noted above: functionally or structurally.

For the reasons described above, the authors propose “not to step into the same rake again and again,” but to approach the definition of consciousness not structurally, but functionally, i.e. describe what it does, not how it does it, i.e. how.

And consciousness does only one thing: it creates models of internal and external objects and processes of reality and classifies them as “I” and “Not I” (“environment”), as objective, subjective and non-existent.

Different forms of consciousness differ in what specific objects we are aware of in these models as “I” and “Not I”, and as objective, subjective and non-existent. This serves as functional criteria for the classification of different forms of consciousness.

According to the authors, identification with all these bodies in different forms of consciousness are all illusions (i.e., incorrect ideas about oneself), but the degree of inadequacy of these illusions decreases as the level of consciousness increases. When the form of consciousness rises, a person begins to realize more, deeper and more adequately. The form of consciousness is determined by what a person identifies himself with, i.e. by how exactly he is mistaken about himself and those around him, i.e. by what he is aware of as “I” and “not I”, and as objective, subjective and non-existent in this form of consciousness.

Consciousness itself generates models of reality based on information about it from the organs of perception and classifies its various manifestations as “I” and “Not I”, objective (matter), subjective (feelings, emotions and thoughts) and non-existent (Russell's teapot, thing in itself Kant).

Therefore, as functional criteria for the classification of forms of consciousness used in defining consciousness and its various forms, one can use what models it generates and what exactly in these models is classified in different forms of consciousness as “I” and “Not I”, objective (matter),

subjective (consciousness) and non-existent (Russell's teapot, Kant's thing-in-itself).

Based on these considerations, the authors propose the following Functional definition of consciousness: Consciousness is the most general classifier of reality, classifying it into “I” and “Not I” (body and environment), into objective, subjective and non-existent.

From this it is clear that consciousness, in principle, cannot be reduced to the concepts used within these models and cannot be defined using them. Therefore, in particular, consciousness cannot classify itself as objective or subjective.

So, we are not exploring reality itself, but only our models of reality created under various forms of consciousness. We most often mistakenly and unlawfully take these models of reality for reality itself (hypostatized). This also applies to ourselves, i.e. our ideas about ourselves. In other words, we mistake ourselves for something we really are not. These models of reality become more and more adequate as the form of consciousness increases. Different forms of consciousness are supported or limited by different structures (bodies). These bodies have various information and energy capabilities for interaction with the outside and internal world. This places restrictions on the models of reality created by these forms of consciousness. The true model of reality is the limit to which models of reality created under various forms of consciousness with an unlimited increase in the level of consciousness strive [32, 33].

3.6. Periodic criterial classification of forms of natural consciousness

Functional definition of consciousness: Consciousness is the most general classifier of reality, classifying it into “I” and “Not I” (body and environment), into objective, subjective and non-existent.

This is not only a functional definition of consciousness, but a basis for defining various forms of consciousness, which differ from each other in the results of the classification of reality under these forms of consciousness, i.e. content of the categories “I” and “Not I”, objective, subjective and non-existent:

Man is a much more complex creature than is usually thought. It includes not only the protein physical body, but also the Soul and Spirit. Science has more or less (rather less than more) figured out the structure of the protein physical body.

However, modern science still denies the existence of the Soul. And this despite the fact that, based on the scientific criterion - Popper's principle, modern science has realized that statements about the non-existence of something are not scientific and in modern science a lot of reliable scientific data has accumulated, obtained using the scientific method, confirming the

existence of the Soul (see, for example, the works of Dr. Moody and his followers [39]), i.e. refuting this official opinion of official science about the non-existence of the Soul.

Therefore, the view that the question of the existence of the soul relates only to religious, philosophical or ethical aspects and is beyond the scope of the scientific method is outdated and erroneous.

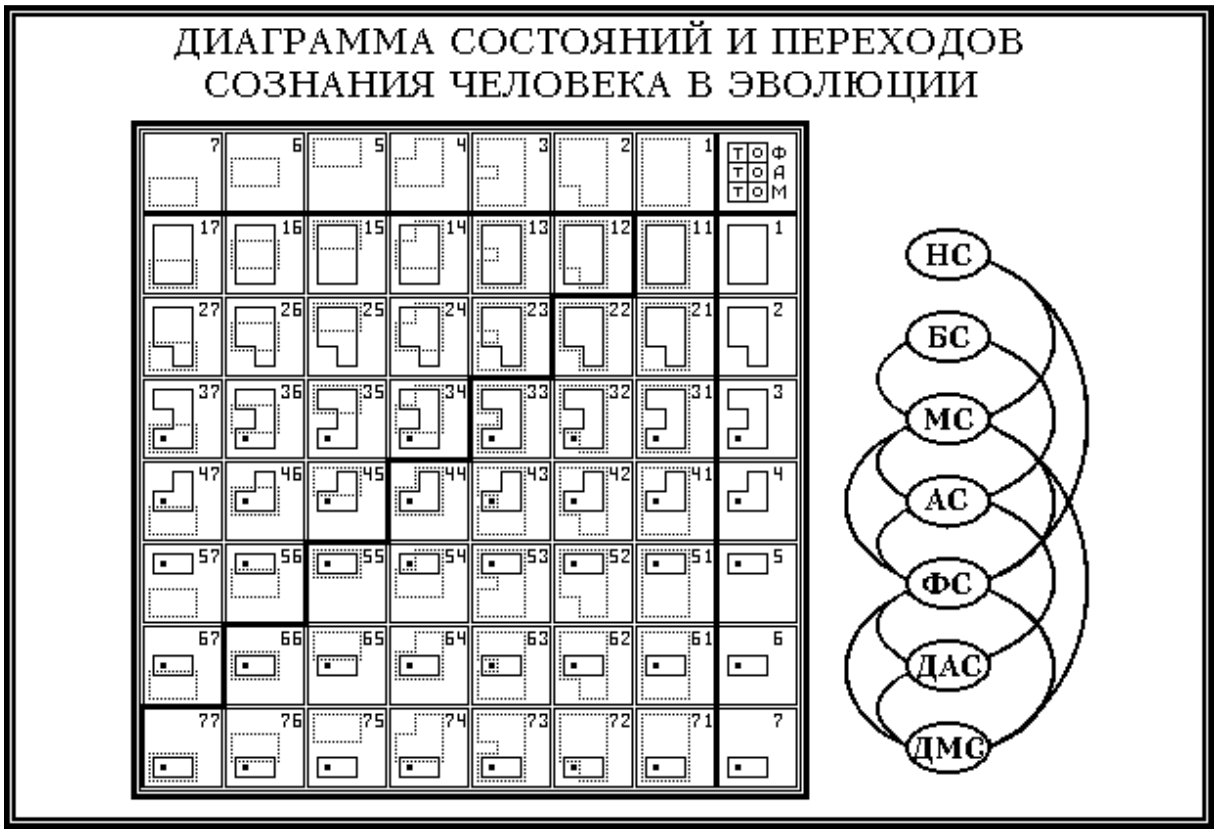
Here it is also necessary to mention that many outstanding scientists believed in God and recognized the existence of the Soul[5].

There is also quite detailed information about the structure, one might say physiology, of the Soul, especially in Indian sources [4, 5]. In this regard, mention can be made of the Ida, Pingala and Sushumna channels, the centers of higher consciousness and the Kenrak system (including meridians and Chinese points), which have been known since the Neolithic era and information about which has reached us in some systems of Eastern philosophy and practices, such as yoga , tantra, traditional Chinese medicine (TCM) and others.

To greatly simplify and without sinning against the truth, we can say, following the Greeks, that there is a sensual (emotional) Soul and a rational (thinking) Soul.

So, from experience and literary sources it is known that with different forms of consciousness, people are differently aware of themselves and their surroundings and have different contents of the categories objective, subjective and non-existent. In particular, with different forms of consciousness, people are aware as “I”, their physical body, their emotions or their mind, and as the environment, i.e. “not the Self” are respectively aware of physical objects, feelings and emotions as environmental objects, and thoughts as environmental objects. With all these forms of consciousness, empirical and theoretical knowledge, as well as practice, are possible. If we generalize all this, we get a periodic criterial classification of forms of human consciousness and a diagram of human transitions from one form of consciousness to another in the process of evolution (see figure):

[5]There is extensive literature on this subject, see for example: http://choose-life.ru/themes/znamenitye-uchyonye-kotorye-verili-v-boga



This classification of forms of consciousness was obtained by Prof. E.V.Lutsenko in 1978-1981 in several ways: as a generalization of experience in higher forms of consciousness, literary data, and as a result of a study of the determination of forms of human consciousness by the functional level of the technological environment [6]. It is described in a number of works [6] and it is not advisable to do it here again due to space limitations.

3.7. Definition, classification criteria and classification of forms of artificial consciousness

The following Functional definition of consciousness was obtained and justified above: Consciousness is the most general classifier of reality, classifying it into “I” and “Not I” (body and environment), into objective, subjective and non-existent.

The fact that this definition of human consciousness was not explicitly specified, but was implied by itself, since when non-human forms of consciousness are discussed this is specifically mentioned explicitly, see, for example, work [6].

The question is whether it is possible to apply this functional definition of natural human consciousness to artificial systems created by people, such as robots and systems like artificial intelligence, i.e. Is artificial consciousness possible?

This question, naturally, only if the answer is positive, is naturally followed by questions about the definition, criteria for classification and the classification itself of forms of artificial consciousness.

It is believed that the question of whether artificial consciousness is possible and how it can be achieved or realized remains open and requires further research and development. It should be noted that the problem of artificial consciousness has its own clearly expressed specificity, is very complex and diverse, and is associated with many issues from different areas of science, as well as other teachings, both pre-scientific and post-scientific [38]. All this allows us to reasonably assert that the problem of artificial consciousness fully deserves an independent scientific direction or direction of science. But so far this direction has not been formed and formalized.

First of all, in order to reasonably answer these questions, we note that currently the problems of artificial consciousness (AI) (Artificial consciousness, hereinafter referred to as AC) are developing in the close and severely inadequate and unreasonably limited framework of the sciences of artificial intelligence (AI, artificial intelligence, AI) and cognitive sciences [38]. Currently, most AI research is aimed at creating systems that can perform specific tasks and learn from experience.

The key to answering the question of whether AS is possible is the question of whose experience it is. Let's try to distinguish between experience or data in AI and the subjective conscious experience of a person. When we are talking about a person, the answer to this question is not a particular problem. But this is only because a person is a person having a subjective conscious experience. If we are talking about machine learning and artificial intelligence, then the term “experience” is used in the context of data and training models on this data, but without the conscious or subjective aspect, like a person.

What are the key personality traits that need to be taken into account when answering the question about the possibility of AS? According to the authors, this is, first of all: the presence of free will in the individual (freedom of choice, freedom to independently set goals) and the ability of the individual to be a witness of experience or an observer of internal and external, i.e. awareness of oneself and the environment.

In Eastern philosophy, especially Buddhism and Hinduism, there is the concept of the “witness of experience,” which refers to a conscious, equanimous level of consciousness capable of observing and being aware of various aspects of experience, but itself not attached to that experience. This aspect is usually called the "witness of consciousness" or "observer". In Buddhism, for example, there is the concept of the “inner observer” (Pali: “sati”), which is awareness or attention to the current moment without attachment or identification with what is happening. It is evidence of awareness of what is happening within and around, but at the same time remains independent of this experience. In Hinduism, a similar concept can be found in the idea of "sakshin" or "atman", which means

"witness" or "soul". This is the highest, unchangeable consciousness that observes all changes and experiences that occur.

As for the independent setting of goals and decision-making by the AS, it is not difficult to imagine how to implement this even at the AI level. But a logical question arises: who is the observer of experience or the witness of consciousness in the case of AS? In essence, the solution to the problem of answering the question of whether artificial consciousness is possible comes down to a well-founded answer to this key question.

In 1950, the famous English mathematician, founder of the scientific direction “Artificial Intelligence” Alan Turing wrote a fundamental article [40], in which he posed the famous question: “Can a machine think” and gave an affirmative answer to it. This article was followed by a detailed discussion of it, about which there is information in [7, 10] and many others. This entire discussion touches on the most fundamental issues that directly affect worldview and is extremely important and instructive.

But the most closely related to the topic of this work and the discussed question of the possibility of artificial consciousness is the most interesting, deep, in the opinion of the authors, objection, which in the literature is called the “theological objection.” It sounds like this:

“Thinking is a property of the immortal soul of man. God gave an immortal soul to every man and every woman, but did not give a soul to any other animal or machine. Therefore, neither animal nor machine can think.".

Let us add on our own that not only thinking is a property of the human Soul, but all the psychological properties and cognitive abilities of the individual, in particular, those manifested in the process of cognition: feelings, emotions, thoughts, attention, memory and others.

Alan Turing himself answered this objection very clearly, clearly and frankly: “In trying to construct such machines, we should not unceremoniously usurp His power of bestowing souls, just as we do not do this when producing children. In both cases, we are rather His instruments, creating containers for the souls He created” [40] (emphasis added, original).

What does it mean? First of all, I would like to draw attention to the fact that Alan Turing recognizes the very existence of the Soul, which modern science is still quite far away from. Much like the science of the Montgolfier era is still very far from creating permanently inhabited orbital space stations, from lunar rovers and rovers, from spacecraft exploring all the planets of the Solar System and their satellites, and even having already left the Solar System and entered interstellar outer space controlled by the galactic union of civilizations "Great Ring". In the opinion of the authors, Alan Turing essentially wrote quite unequivocally that in his opinion:

– thinking is carried out not by the brain, but by the human Soul;

– people do not create new Souls, but they are created by God;

– people create containers for Souls, i.e. physical bodies, as he put it, “producing children”;

– people can create containers for Souls in another way: “by trying to construct similar machines,” i.e. thinking machines.

Alan Turing is essentially saying that thinking machines will be no more and no less thinking than our physical bodies, in other words, they will simply be functionally equivalent to our physical bodies. The author developed this idea in detail in [6] and a number of others.

When we discuss this objection, we directly touch on fundamental debatable issues that have the most serious ideological significance, which, on the one hand, science is intensively studying, and on the other hand, on which there is not yet one generally accepted point of view in science.

The most important of these questions, a kind of epicenter of discussion, is the question of the existence of the Soul. The existence of the Soul, which is the bearer of a person’s personality, his feelings and thoughts, is recognized in all pagan and monotheistic world religions, in all mystical and magical teachings and in many philosophical systems. However, the existence of the Soul is still not recognized by science!

Meanwhile, science has accumulated a sufficient number of facts that are very difficult or even impossible to explain without recognizing the existence of the Soul. These facts, first of all, include facts confirming that a person does not think with the help of the brain, that he has another function (perhaps this is the function of supporting a communication channel between the body and the Soul). These are facts accumulated in the study of clinical death and out-of-body experiences “out of the body”. In this regard, first of all, it is necessary to mention the studies of Dr. Moody and his followers [39].

According to the authors, until science recognizes the existence of the Soul and draws appropriate conclusions from this, the path to creating fully functional artificial intelligence and systems with an artificial personality and artificial consciousness will be closed to it!

Trying to create a fully functional artificial intelligence without recognizing the existence of the Soul is the same as trying to travel around the world thinking that the Earth is a disk resting on three whales (or elephants, or turtles, the essence of the matter does not change, because there are still three). In the same way, it is impossible to study organic chemistry, thinking, like the opponents of Paracelsus, that the organism would instantly die if chemical reactions occurred in it, as in a retort. Likewise, it is impossible to create and improve a car with an internal combustion engine if you are based on the idea that under its hood the crankshaft is turned by representatives of dark forces, and not by pistons.

Those who, after these arguments, continue to believe that a computer, in principle, cannot think, because in it there is no one or nothing to understand, but can only imitate thinking (the argument of J. Searle “The Chinese Room”),

in order to remain completely consistent, the same statement must be extended to a person in general, and to ourselves in particular. Thus, the authors argue that when J. Searle put forward his objection, he also followed the J. Searle principle, that is, he did not really understand what he was saying and what he was talking about. This guess is confirmed by the fact that he seriously thought that he thought with the help of his brain. This means that he did not understand at all what thinking is and how it is actually realized in nature in general, in man and in himself in particular.

In the context of the question of the possibility of artificial consciousness discussed in this work, the authors respond to J. Searle's argument in the same way as Alan Turing: “In attempting to construct such machines, we should not unceremoniously usurp His power of bestowing a soul, just as we do not this, producing children. In both cases, we are rather His instruments, creating containers for the souls He created” [40]. This is a fundamental position.

If we formulate the logical consequences of it more specifically, it will sound something like this:

1. It is possible to create computer systems that the Soul can control in the same way that it already controls the protein physical body [6]. These technical systems (functional diagrams and technical solutions) were proposed by the author in 1979-1981 on the basis of the developed information-functional theory of technology development. They are completely functionally equivalent to the physical body. The consequences of the creation and mass distribution of such systems for technological processes, the economy, society and society, incl. determination of the form of human consciousness by the functional level of the technological environment, for the transition of society to the next socio-economic formations and groups of formations [6].

2. These technical systems will have an artificial personality and artificial consciousness, free will (freedom of choice, freedom to independently set goals) and will have such a personality property as being a witness of experience or an observer of the internal and external, i.e. awareness of oneself and the environment. Following [6], we will call them quasi-biological robots.

At the same time, the definition, classification criteria and classification of forms of artificial consciousness are no different from the definition, classification criteria and classification of forms of natural human consciousness given above, therefore it is not advisable to repeat them here again.

IV. Discussion: coexistence of physical and electronic persons with natural and artificial consciousness

4.1. Problems of coexistence between people and quasi-biological robots

Problems of coexistence of natural and artificial persons with natural and artificial consciousness may include:

1. Ethical issues: There is a need to define the rights and responsibilities for artificial consciousnesses. What ethical standards should apply to human-created artificial intelligence, and how can we ensure compliance with them?

2. Security: There is a potential security threat associated with the development of artificial intelligence. Security concerns include the potential for misuse of the technology, as well as risks associated with the possibility of hacking or substitution of artificial minds.

3. Access to resources: How to distribute limited resources, such as computing power and energy, between physical and electronic entities?

4. Understanding and interaction: It is necessary to ensure understanding and interaction between different types of consciousness. How to ensure effective communication and interaction between artificial and natural consciousnesses?

5. Legal aspects: How to resolve legal issues related to artificial consciousnesses, such as their legal status, liability and possibility of prosecution?

6. The struggle of quasi-biological robots for their rights. But the main problem, in the authors' opinion, is that:

– electronic persons with artificial consciousness (quasi-biological robots) will far exceed in their capabilities physical persons with natural consciousness (if this were not so, then there would be no point in creating them; technical systems always allow one to overcome the natural psychophysiological limitations of a person, so they and are created);

–Over time, they will begin to fight for their rights, first for equality with people, and then for more privileged rights than people, and they will have serious arguments for this that cannot simply be brushed aside;

– these rights will also include, among others, the right of ownership, inheritance, marriage with each other and with individuals, etc., etc.

4.2. Ways to solve the problems of coexistence of people with quasi-biological robots

Solutions to these problems may include:

1. Develop Ethical Standards: The community must develop generally accepted ethical standards for the creation and use of artificial intelligence, ensuring that ethical standards are followed.

2. Ensuring security: Develop and implement technologies aimed at ensuring the security of artificial consciousnesses, including protection against hacking and abuse.

3. Rational resource allocation: Developing effective resource allocation mechanisms to ensure a balanced coexistence of physical and electronic entities.

4. Interaction training: Development of training methods for effective interaction between different types of consciousness, including the creation of interfaces and communication standards.

5. Legal framework: Development of legislation that takes into account the characteristics of artificial consciousnesses, and determination of their legal status and responsibility.

6. The struggle of quasi-biological robots for their rights poses a danger to the very continuation of the existence of humanity in the form in which we have known it since its very origin. Most likely, humanity will move into qualitatively different forms of existence, which the author tried to reasonably analyze in [6]. These forms of existence will include a massive transition of people to higher forms of consciousness and a qualitatively different level of technology, the complete development of the Earth, other planets and interplanetary outer space [6].

V. Some conclusions and prospects

This paper poses the problem of defining and criterial classification of forms of natural and artificial consciousness, and also proposes and briefly justifies a solution to this problem. In particular, the concept of consciousness in philosophy, sociology, political science and psychology is considered. Various aspects of social and individual consciousness are briefly discussed. The concept of consciousness is clarified in the context of this study. The essence of the method of scientific induction is briefly described, which is the scientific method of cognition, i.e. scientific method. The application of the method of scientific induction in the study of individual consciousness is proposed. The logic of the emergence of specific sciences and their pre-science, philosophy, is considered. It is substantiated that the main question of philosophy is dialectics, logic and theory of knowledge as the last stronghold of pre-scientific thinking. The insufficiency of the theory of knowledge is revealed and the need for a theory of consciousness is substantiated. The path from postulating a solution to the basic question of philosophy to its formulation and solution by the method of scientific induction is described. The criteria for the classification of individual forms of consciousness are substantiated and on this basis a definition of consciousness is given. The determination of the forms of individual consciousness by the functional level of the technological environment is considered. The main provisions of the informational-functional theory of technology development are given and the definition of artificial emotions,

artificial intelligence and artificial consciousness is given. A periodic criterial classification of forms of natural and artificial consciousness is given.

Main conclusions:

1. It is possible to create computer systems that the Soul can control in the same way that it already controls the protein physical body [6]. These technical systems (functional diagrams and technical solutions) were proposed by the author in 1979-1981 on the basis of the developed information-functional theory of technology development. They are completely functionally equivalent to the physical body. The consequences of the creation and mass distribution of such systems for technological processes, the economy, society and society, incl. determination of the form of human consciousness by the functional level of the technological environment, for the transition of society to the next socio-economic formations and groups of formations [6].
2. These technical systems will have an artificial personality and artificial consciousness, free will (freedom of choice, freedom to independently set goals) and will have such a personality property as being a witness of experience or an observer of the internal and external, i.e. awareness of oneself and the environment. Following [6], we will call them quasi-biological robots.

Prospects:

Humanity will move into qualitatively different forms of existence, which the author tried to reasonably analyze in his work [6]. These forms of existence will include a massive transition of people to higher forms of consciousness and a qualitatively different level of technology, the complete development of the Earth, other planets and interplanetary outer space [6].

На русском языке с данной работой можно ознакомиться в ресечгейт [41].

References

1. Lutsenko E.V., Golovin N.S. Revolution in artificial intelligence systems of the 20s of the 21st century and systems with a “soul-computer” interface as the next next stage in the development of intelligent technologies, October 2023, p. 39, DOI:10.13140/RG.2.2.34261.19686, LicenseCC BY 4.0,https://www.researchgate.net/publication/374724864
2. Lutsenko, EV The revolution in artificial intelligence systems of the 20s of the XXI century and systems with the Soul-computer interface as the next nearest stage in the development of intelligent technologies / EV Lutsenko, NS Golovin // Polythematic Online Scientific Journal of Kuban State Agrarian University. – 2023. – No. 192. – P. 93-128. – DOI 10.21515/1990-4665-192-009. – EDN UNKNLC.
3. Lutsenko E.V., Golovin N.S. Three generations of artificial intelligence development or the path from the question “Can a machine think?” to the question "Can a machine have consciousness and personality?" // November 2023,

DOI:10.13140/RG.2.2.25893.68320,LicenseCC BY 4.0,https://www.researchgate.net/publication/375928285

4. Sarvepalli Radhakrishnan, Indian Philosophy. Volume I: Vedic and Epic Period. S.Radhakrishnan. Indian Philosophy, vol. IL, 1927 (M., 1956).https://psylib.org.ua/books/radha01/

5. Sarvepalli Radhakrishnan, Indian Philosophy, Volume II, S.Radhakrishnan. Indian Philosophy, vol. II. L., 1931 (M., 1957).https://psylib.org.ua/books/radha02/

6. Lutsenko EV On higher forms of consciousness, the prospects of man, technology and society (selected works) // August 2019, DOI:10.13140/RG.2.2.21336.24320, LicenseCC BY-SA 4.0,https://www.researchgate.net/publication/335057548,http://lc.kubagro.ru/index_vfs.htm

7. LutsenkoEV Cloud artificial intelligence with direct Soul-computer interface as a perspective of human, technology and society // November 2019, Conference: Information society and digital economy: global transformations. Proceedings of the IV National scientific and practical conference Krasnodar. Krasnodar, 2019. Pp. 26-44.https://elibrary.ru/item.asp?Id=41170089, At: Krasnodar, Russia,https://www.researchgate.net/publication/337033006

8. LutsenkoEV Some challenges and prospects of development of bioelectronics (Report at the regional conference on bioelectronics may 14, 1982, Krasnodar) // August 2019b DOI:10.13140/RG.2.2.16558.66883, LicenseCC BY-SA 4.0,https://www.researchgate.net/publication/334960275

9. LutsenkoEV Philosophical problems of psychophysics biological field (the unity of the world) // August 2019, DOI:10.13140/RG.2.2.31281.33122, LicenseCC BY-SA 4.0,https://www.researchgate.net/publication/334899232

10. LutsenkoEV About the interface: "soul-computer" (artificial intelligence: problems and solutions within the system information and functional paradigm of society development) // April 2019, DOI:10.13140/RG.2.2.23132.85129,https://www.researchgate.net/publication/332464278

11. LutsenkoEV The criteria of reality and the principle of equivalence of virtual and “true” reality // March 2019,https://www.researchgate.net/publication/331829076

12. LutsenkoEV Shine and poverty of virtual reality // March 2019,https://www.researchgate.net/publication/331744978

13. LutsenkoEV, Pechurina EK, Sergeev AE Complete automated system-cognitive analysis of the periodic criterion classification of forms of consciousness // January 2018, DOI:10.13140/RG.2.2.25356.67200, LicenseCC BY-SA 4.0,https://www.researchgate.net/publication/340583152

14. LutsenkoEV The principles and the prospects of correct content interpreting of subjective (virtual) models of the physical and social reality generated by human consciousness // January 2016,https://www.researchgate.net/publication/331801633

15. LutsenkoEV Formation of the subjective (virtual) models of physical and social reality by human consciousness and giving them undue ontological status (hypostatizations) // January 2015,https://www.researchgate.net/publication/331801626

16. LutsenkoEV Psychology of programming (textbook, 2nd edition) // July 2019, DOI:10.13140/RG.2.2.19466.82884,https://www.researchgate.net/publication/334479216

17. BakuradzeLA, Lutsenko EV Man is nature. A new approach to the problem man - nature. A new approach to the problem // July 2019, DOI:10.13140/RG.2.2.14654.84806, LicenseCC BY-SA 4.0,https://www.researchgate.net/publication/334726192

18. Lutsenko E.V. Logic and methodology of scientific knowledge: http://lc.kubagro.ru/aidos/Works_on_identification_presentation_and_use_of_knowledge.htm

19. Lutsenko E.V. Thematic selection of publications onhigher forms of consciousness, perspectives of man, technology and society:http://lc.kubagro.ru/aidos/Works_on_higher_forms_of_consciousness.htm

20. Kuhn T.The Structure of Scientific Revolutions. Chicago, 1962; 2ed. Chicago, 1970,https://kargopolov.spb.ru/assets/books/kuhn.pdf

21. Lutsenko E.V. Problems and prospects of the theory and methodology of scientific knowledge and automated system-cognitive analysis as an automated method of scientific knowledge that provides meaningful phenomenological modeling / E.V. Lutsenko // Polythematic network electronic scientific journal of the Kuban State Agrarian University (Scientific journal of KubSAU) [Electronic resource]. – Krasnodar: KubGAU, 2017. – No. 03 (127). pp. 1 – 60. – IDA [article ID]: 1271703001. – Access mode:http://ej.kubagro.ru/2017/03/pdf/01.pdf, 3.75 u.p.l.

22. Lutsenko E.V. Systematic generalization of Ashby's principle and increasing the level of systematicity of the model of the object of cognition as a necessary condition for the adequacy of the process of its cognition / E.V. Lutsenko // Polythematic network electronic scientific journal of the Kuban State Agrarian University (Scientific journal of KubSAU) [Electronic resource]. – Krasnodar: KubSAU, 2020. – No. 09 (163). pp. 100 – 134. – IDA [article ID]: 1632009009. – Access mode:http://ej.kubagro.ru/2020/09/pdf/09.pdf, 2.188 u.p.l.

23. Lutsenko E.V. Efficiency of a management object as its emergent property and increasing the level of consistency as a management goal / E.V. Lutsenko // Polythematic network electronic scientific journal of the Kuban State Agrarian University (Scientific journal of KubSAU) [Electronic resource]. – Krasnodar: KubSAU, 2021. – No. 01(165). pp. 77 – 98. – IDA [article ID]: 1652101009. – Access mode:http://ej.kubagro.ru/2021/01/pdf/09.pdf, 1.375 u.p.l.

24. Lutsenko E.V. Universal information variation principle of systems development / E.V. Lutsenko // Polythematic network electronic scientific journal of the Kuban State Agrarian University (Scientific journal of KubSAU) [Electronic resource]. – Krasnodar: KubGAU, 2008. – No. 07 (041). pp. 117 – 193. – Informregister code:0420800012\0091, IDA [article ID]: 0410807010. – Access mode:http://ej.kubagro.ru/2008/07/pdf/10.pdf, 4.812 u.p.l.

25. Lutsenko E.V. Do socio-economic phenomena obey any analogues or generalizations of the principle of relativity of Galileo and Einstein and are Noether's theorem and conservation laws satisfied for them? / E.V. Lutsenko // Polythematic network electronic scientific journal of the Kuban State Agrarian University (Scientific journal of KubSAU) [Electronic resource]. – Krasnodar: KubGAU, 2013. – No. 07 (091). pp. 219 – 254. – IDA [article ID]:0911307014. – Access mode:http://ej.kubagro.ru/2013/07/pdf/14.pdf, 2.25 u.p.l.

26. Lutsenko E.V. Existence, non-existence and change as emergent properties of systems // Quantum Magic, volume 5, no. 1, pp. 1215-1239, 2008,https://quantmagic.narod.ru/volumes/VOL512008/p1215.html

27. Lutsenko, E. V. Criteria of reality and the principle of equivalence between virtual and "true" reality / E. V. Lutsenko // Polythematic network electronic scientific journal of the Kuban State Agrarian University. – 2004. – No. 8. – P. 9-27. – EDN JWXNGV.

28. Lutsenko E.V. Mathematical and numerical modeling of dynamicsprobability density of states of human consciousness in evolution withapplication of the theory of Markov random processes / E.V. Lutsenko // Polythematic network electronic scientific journal of the Kuban State Agrarian University (Scientific journal of KubSAU) [Electronic resource]. – Krasnodar: KubGAU, 2005. – No. 07 (015). pp. 59 – 76. –IDA [article ID]: 0150507004. - Access mode: http://ej.kubagro.ru/2005/07/pdf/04.pdf, 1.125 u.p.l.

29. Uspensky P. D. Tertium Organum. The key to the mysteries of the world. Printing house of St. Petersburg. T-va Pech. and Ed. cases "Trud", 1911,https://4italka.su/religiya_i_duhovnost/religiya/57965/fulltext.htm

30. Marx Karl, Capital, volume 1, Chapter 13. Machines and large-scale industry, section: 1. Development of machines, – pp. 382-397https://www.esperanto.mv.ru/Marksismo/Kapital1/kapital1-13.html#c13.1

31. Lutsenko E.V. A thematic selection of publications about higher forms of consciousness, prospects for man, technology and society //http://lc.kubagro.ru/aidos/Work_on_identification_presentation_and_use_of_knowledge.htm

32. Lutsenko E.V. Formation of subjective (virtual) models of physical and social reality by human consciousness and the unjustified giving of ontological status to them (hypostatization) / E.V. Lutsenko // Polythematic network electronic scientific journal of the Kuban State Agrarian University (Scientific journal of KubSAU) [Electronic resource]. – Krasnodar: KubGAU, 2015. – No. 09 (113). pp. 1 – 32. – IDA [article ID]: 1131509001. – Access mode:http://ej.kubagro.ru/2015/09/pdf/01.pdf, 2 u.p.l.

33. Lutsenko E.V. Principles and prospects for correct meaningful interpretation of subjective (virtual) models of physical and social reality, formed by human consciousness / E.V. Lutsenko // Polythematic network electronic scientific journal of the Kuban State Agrarian University (Scientific journal of KubSAU) [Electronic resource]. – Krasnodar: KubGAU, 2016. – No. 01 (115). pp. 22 – 75. – IDA [article ID]: 1151601003. – Access mode:http://ej.kubagro.ru/2016/01/pdf/03.pdf, 3.375 u.p.l.

34. Tsekhmistro I.Z. Searches for the quantum concept of the physical foundations of consciousness. – Publishing house Kharkov. University, 1981.

35. Penkin S.A. Philosophical analysis of the quantum concept of consciousness // Dissertation for the degree of candidate of philosophical sciences.https://new-disser.ru/_avtoreferats/01002978010.pdf

36. Mensky M. B. Consciousness and quantum mechanics: Life in parallel worlds (Miracles of consciousness - from quantum reality) Authorized trans. from English Vaksmana V. M. Fryazino: Century 2. 2011. – 320 pp., ill. ISBN 978-5-85099-187-6,https://e-univers.ru/upload/iblock/bdf/70j6j8gjr5mh2qgfpq8oytoj8z0jhud3.pdf

37. Lenin V.I. Materialism and empirio-criticism // Complete. collection cit., 5th edition, volume 18, Ed. watered lit., Institute of Marxism-Leninism under the CPSU Central Committee, Moscow, 1968,http://zastalina.org/data/documents/Lenin_18_materialism.pdf

38. Wikipedia. Artificial consciousness // http://en.wikipedia.org/wiki/Artificial_consciousness

39. Moody Raymond. Life after life. Study of the phenomenon of continuation of life after the death of the body. (With a foreword by Dr. KUBLER - ROSSE). translation from English. 1976.

40. Turing A.Computing machinery and intelligence (English) // Mind: magazine. - Oxford: Oxford University Press, 1950. - No. 59. — P. 433 - 460.

41. Lutsenko E.V., Golovin N.S. The problem of definition and criteria classification of forms of natural and artificial consciousness // January 2024, DOI: 10.13140/RG.2.2.26168.52484, License CC BY 4.0, https://www.researchgate.net/publication/377064783