





The Ideal and the Material, the Subjective and the Objective in Systems Research

Elena A. Tunda¹  and Vladimir A. Tunda² 

¹ National Research Tomsk State University,
36 Lenin Avenue, 634050 Tomsk, Russia
e. tunda@yandex. ru

² Independent Researcher, Tomsk, Russia

Abstract. The article is devoted to the application of a new model of structuring of Matter, previously published by the authors, to some questions of systems research, which allows us to take a slightly different look at the fundamental categories of “ideal” and “material”, “subjective” and “objective” by way of realizing a more holistic model of the evolution of Matter than, for example, the Big Bang theory, and understanding the unlimited 5–10 billion years of the evolution of our macrocosm. The proposed model of structurization also allows one to establish deeper levels of abstraction in scientific research, relative to the levels of structurization of Matter. In addition, this model offers a new understanding of the prudence of nature in creating the mechanisms of what is called thinking, awareness, cognition up to the evolutionary destiny of man. Finally, the article offers system researchers the reasoning for modeling cognitive processes as an extension of processes in the environment.

Keywords: Systems research · Ideal · Material · Subjective · Objective · Universe · Evolution · Thinking · Abstractions levels

1 Introduction

Considering what metaphysics does is a theory of what might underlie the phenomena studied by physics and all other natural sciences. The theory in which, among others, the essence of the categories “ideal” and “material”, “subjective” and “objective” are considered. The use of these categories is also necessary in the field of systems research. The authors took the liberty to offer their own views on the essence of these categories by understanding some metaphysical processes that underlie the universal mechanism of thinking that supports the universe evolution. Moreover, “By now, enough grounds have been accumulated to assert that over the past more than a century since the creation of the general theory of relativity (GR), the principles underlying its foundations have practically been exhausted. The time has come to pay special attention to the analysis of the prevailing ideas about classical space-time and physical reality. [2, p. 69]”.

However, first things come first.

2 Traditional Understanding of Ideal and Material

It was the philosophers of antiquity who proceeded from the idea of the dichotomy of being into two main types: material and ideal. The problem of the ideal world as a whole and the individual spiritual world of a person has attracted man's attention since ancient times – since he began to realize himself, to realize that he is thinking.

“**Material**” is a philosophical category that reflects the materiality, perceptibility of real objects, i.e. substantiality of the material. However, Matter and substance should not be confused. The opposite of the category “material” is the category “ideal”.

“**Ideal**” denotes an incorporeal, immaterial, and non-extended reality that exists in the form of ideas, ideals, prototypes given to a person in his consciousness as “intelligible essences”.

This is the *fundamental difference between the reality of consciousness and the reality of the material*; mental — from the physical.

There might be a question, what does all of the above have to do with system analysis? It turns out that a close look at systems that are very different in scale from the usual surrounding world given to us in sensations, such as large-scale astrophysical systems or small-scale systems of elementary particles, reveals a significant discrepancy between the proposed models and the facts. But even Josiah Willard Gibbs said that *one of the main tasks of theory in any field of knowledge is to find a position from which the object is seen in the utmost simplicity. What is the simplicity of the Big Bang or quantum-wave dualism models?*

3 Traditional Understanding of Subjective and Objective

The meaning of the concepts used in the heading of this section will be revealed with a number of definitions. First, we give definitions from Wikipedia: “Subjectivity is the expression of a person's (thinking subject) ideas about the world around him, his point of view, feelings, beliefs and desires” and “Objectivity is an attitude to an object (phenomenon) and its characteristics, processes, as to independent of person's will and desires, – implies the presence of knowledge as such about an object (phenomenon)”. But how can we explain “objectivity” from the point of view of the observer's influence on the results of quantum-mechanical experiments?

And now let's take a somewhat paraphrased definition given by Anatoly Alekseevich Denisov [3, p. 3], which corresponds to the topic of this article and will be developed further: “Objective reality is a philosophical category to designate that reality that is by no means given to us in sensations, but is a product of logical processing of sensory/measured/calculated data, while in sensations, measurements and computational experiments, we are given specific material properties inherent in the objects”. And, finally, we write out a number of clarifying definitions.

The concept of “data” used in Denisov's definition is associated with other concepts that clarify further reasoning. “**Data**” is the presentation of dedomains in a form suitable for communication, interpretation, or processing. “**Dedomains**” — heterogeneities of objective reality, what makes it possible to distinguish them — pure data before their interpretation or cognitive processing. “**Information**” is interpreted,

cognitively processed data that has been given a new meaning and correct form: if we only have data, but we do not know their meaning, we don't have information yet. "**Knowledge**" is information properly considered. "**Facts**" — fixed knowledge that can be verified, — a fact is opposed to a theory or hypothesis: a scientific theory describes and explains facts, and can also predict new ones.

And again, we return to the topic of this article. "In the concept of 'system', as in any other category of the theory of knowledge, the objective and the subjective constitute a dialectical unity, and *one should speak not about the materiality or immateriality of systems, but about the approach to the objects of research as to systems*... Using these, as it were, different levels of display, a researcher can preliminarily represent an object or a process of solving a problem in the form of a system in which it has not yet been possible to distinguish elements, determine communications that are essential for achieving the goal, and then, moving to more formalized levels of representation of the system (engineering, design), refine the elements and communications, more and more approaching the achievement of the goal, to the creation of the desired system. At the first stages, it is important to be able to separate (demarcate) the system from the environment with which the system interacts, or to find some other way of representing the system, for example, to represent it as a block with an unknown structure and only known 'inputs' and 'outputs' (in cybernetics and systems theory, such a representation is often called a 'black box')" [4, p. 27]. Below, in a "new look at the subjective, objective" we will try to develop this classic approach to the study of systems.

4 Matter Structurization Model

The author's model of the structurization of Matter is based, first of all, on the notions of the structural organization of Matter by Ruger Osip Boshkovich [5], who based his view on Leibniz's doctrine of continuity "Everything happens gradually", the axiom of impenetrability of Boshkovich himself "no two material points can occupy one and the same spatial or local point at the same time" and the Law of Force, derived by himself. He assumed Matter to be composed of combinations of homogeneous, completely indivisible, without any extension and separated from each other "points", each of which has the property of inertia, in addition, a mutual active force, depending on the distance. If the distance decreases infinitely, the repulsive force increases indefinitely, while if the distance increases, the repulsive force decreases, disappears and turns into an attractive force, which decreases in the inverse ratio of the squares of the distances, almost coinciding with Newton's gravitational force.

We, in the development of Boshkovich's ideas, believe that the world around us arose on the path of endless (in time) self-improvement of Matter with the help of natural mechanisms of its self-organization. In our understanding, everything happened and is happening in the so-called Great Void, which is filled with an innumerable set of, let's say, V-quanta, similar to Boshkovich's points.

First, from V-quanta, pramatter emerged in the form of an innumerable set of Platonic solids (tetrahedron, hexahedron, octahedron, dodecahedron, icosahedron) — the most durable structures formed from V-quanta, due to their volumetric symmetry, which (pramatter) became the substantial basis of our universe.

The structuring of Matter began with the mutual combination of pramaterial structures and free V-quanta, leading to the emergence of more and more complicated structures and their reflections¹ by each other from the simplest ways in collision to the most perfect way of reflecting reality — *thinking*. More detailed information on the structuring of Matter is given in [6].

In our opinion, after the birth of pramatter at the very first stage of the formation of Matter, the mental world arose. The *mental structures (MS)* that emerged as a result of incipient thinking themselves began to contribute to a more complex further structuring of Matter. Thoughts began to be accompanied by emotions, which contributed to the next level of structuring of Matter — the emotional world with its *emotional structures (ES)*. Further, the physical world with the most diverse *physical structures (PS)* arose, the evolution of which gave rise to a person with an ineradicable natural desire “I want to know everything!” and objectified the creation of computer technology and *artificial intelligence (AI)*, which greatly increased the mental capabilities of a person.

So, on an enlarged scale, there are five levels of evolution in our model: The *Great Void* with its V-quanta, *pramatter* from the Platonic solids, the *mental world*, the *emotional world*, the *physical world*. Each level, starting with the deepest level of the Great Void, creates a structure or template for the “objects” of the next level. So, for example, so that individual particles of pramatter — Platonic solids — do not get lost among the innumerable set of V-quanta of the Great Void, in the depths of the latter a single stream of Platonic solids, directed along an elliptical orbit, arose — the dynamic structure of the Great Void, the disintegration of which is not allowed by the free V-quanta scurrying around it. The internal processes of this dynamic structure have led to the next level of structuring — mental level structures: memory stores, thinking patterns, etc., and the *mental field* became the carrier of the interactions of these MSs, which still carries thoughts throughout the mental world. In the process of its evolution, the mental world by its thinking contributed to the creation of structures of the emotional level — specific ES, the emotions of which are transferred throughout the emotional world by their own *emotional field*. In turn, the emotional world contributed to the creation of structures of the physical world, perceived by the senses given to us by nature. Finally, having learned to semanticize the surrounding reality, a person subdivided the physical world into *inert* and *living matter*, each of which was subjected to a thorough analysis, giving *sense* and *meaning* to their individual parts, etc., etc. Let’s recall the question and the assumptions on the answer to it by Vlail Petrovich Kaznacheev: “...there is an astrophysical horizon, what is beyond this horizon? There is not a vacuum, not an emptiness — there is something, there is also materiality. Something that exists outside of quantum particles of all categories known to physics. The presence of ethereal space is postulated, it is assumed... the presence of ‘great nothing’² as a kind of Arche, which is then realized in a physical vacuum, in...

¹ **Reflection** is a universal property of Matter, manifested in the ability of material forms to reproduce the certainty of other material forms in the form of a change in their own certainty in the process of interaction with them.

² This is a Great Void for us.

quantum particles, then in all other gaseous, liquid, dense and other forms of matter” [7, p. 52].

Let’s pay attention to the enormous difference in the scales of all the mentioned five levels of structuring and to the energetic feeding by the fields of deeper levels of substances of the following higher levels of structuring. So free V-quanta by their motion feed the energy of the flow of pramatter — the flow of what in our world is called Ether. The ether feeds with its energy the fields of the mental level, which, in turn, are the fields of the emotional world, etc.

To represent the enormous difference in the scales of all the five levels of evolution, let’s take as an example at least an electromagnetic field, the substance of which has not yet been registered — we see only the results of its interaction with conductive substances, not to mention the “subtler” substances of the emotional and mental worlds.

In addition, the prudent nature could not afford to squander mental developments in the death of objects of the emotional and physical world – all the attributes, all the results of mental processes proceed and remain in the depths of the mental world.

5 Human Structural Model

In the organism of a living substance, protein-nucleic space and field space are combined.

V.P. Kaznacheev [7, p. 58]

In general, a person can be structurally represented as consisting of the skin, the osteo-muscular skeleton, the vascular system, the nervous system and the meridian structure. It is believed that a person thinks with his head, which contains the thinking apparatus — the brain. In our opinion, the brain is only a receiving-transmitting station, which, through the nervous system associated with it, removes signals from a wide variety of receptors and proprioceptors of the human body and transmits them in the form of oscillations to its meridian structure, which is connected with the human body at its inception.

The meridian structure (in more detail in the next section) at its different levels can receive/transmit oscillations in the range of all three worlds of the evolution of Matter: mental, emotional and physical. The carriers of oscillations are the substances of the corresponding fields of these worlds. The main thing for the perception of oscillations from one world to others is the resonance effect, which occurs when the frequency multiplicity of the oscillations carried by the fields and the receiving-transmitting “station”. In other words, the meridian structure of a person perceives the entire range of vibration frequencies of all three worlds of the evolution of Matter.

Thus, regardless of whether a person realizes it or not, his vital activity takes place simultaneously in all three worlds. If we switch over to religious terminology — in the *spiritual* (mental), *soulful* (emotional) and the *world of actions* (physical). The communicative center of interactions between all worlds is the brain with its nervous system and, of course, the meridian structure, which perceives the oscillations of all the above-mentioned fields-carriers of interactions.

6 The Meridian Structure of the Human Organism

Does the body have any sensory structure that is sensitive to the space-time Kozyrev fields?

V.P. Kaznacheev [7, p. 179]

The meridian structure, as a product of the evolutionary structuring of the mental and emotional worlds, is able not only to perceive the entire spectrum of vibrations of the mental, emotional and physical ranges, but also to transform them to transfer the vibrations of one world to another. In addition, it serves as a limiting defense system that meets the evolutionary task of surviving what a particular meridian structure encompasses by maintaining the required internal homeostasis.

The meridian structure of the (MSO) human organism has three levels, respectively, associated with his personal MS (PMS) the mind, personal ES (PES) — the psyche, and personal PS (PPS) — the body (and in the sum PMS + PES + PPS make up the human organism). The existence of the third level of the meridian structure can be judged by the fact that back in 1985 a group of Novosibirsk scientists led by Kaznacheev discovered the optical conductivity of the meridians. As a result of the research, it was possible to prove the conductivity of light, as well as the specificity of the conduction of light by acupuncture points lying on the same meridian. PES and PMS of each person are unique (like papillary patterns) and respond only to their own oscillation frequencies, like a radio receiver tuned to the wave of a certain radio station.

So, the first level of the MSO is able to receive/transmit the oscillations of the PMS, the second — of the PES, and the third — the oscillations of the first and second levels of the MSO and the brain, for which the third level of the MSO is subdivided into two sublevels. The vibrations of the mental world are processed at the first level of the MSO and are transmitted to the first sublevel of the third level of the MSO. Fluctuations of the emotional world are processed at the second level of the MSO and are transmitted to the second sublevel of the third level of the MSO. Both sublevels of the third level of the MSO play the role of frequency transformers PMS and PES into frequencies that the brain is able to perceive.

Directly the very processes of thinking and emotional experience occur in PMS and PES with all the attributes inherent in these processes. Communication with the brain is carried out indirectly through the levels and sublevels of the meridian structure of the organism. In other words, the receptors and proprioceptors of the body with their signals, transmitting to the brain, and then to the MSO and even further to the PES and PMS, form in the latter two a vision of our physical world. It is they (PES and PMS) who actually experience and think, “direct” the life of the body and human behavior. But the total results of the work of all PES and PMS of mankind serve the process of evolution of Matter as a whole.

7 The Mechanism of Thinking

The accepted definition of the concept of “thinking”: an indirect and generalized reflection of reality — a type of mental activity, which consists in cognizing the essence of things and phenomena, regular connections and relationships between them (see also below “Levels of abstraction”). We propose to consider a generalized model of the mechanism of reflection (mental activity, cognition).

Enlargedly, the mechanism of thinking consists of five parts: the PMS, the mental field-carrier of thoughts, the meridian structure of the organism, the brain and the human nervous system with its receptors and proprioceptors. *PMS* is where thinking actually takes place. The mental field-carrier carries with its waves thoughts — the results of thinking. *MSO*, as a receiving-transmitting antenna, directly (through its third level) connected to the brain, receives mental vibrations from its PMS and transmits them to the brain. The brain receives decoded signals and transmits them through the nervous system to the corresponding organs or systems of the human body, guiding their life. Signals from receptors and proprioceptors of the body enter the brain, then to the third level of the MSO, where they are transformed into the frequency range corresponding to the mental world, then they are transmitted to the first level of the MSO, from where they are transferred by the mental field to the PMS, which thus “sees” what is happening in the physical the world.

A person believes that he sees, feels the environment of the physical world, but in fact, despite all the complexity of his brain, he cannot perform any actions without “consulting” his PMS, except for skills innate or acquire by constant practice, mechanical movements. Sports skills gained in exhausting workouts, let us recall at least the legendary Bruce Lee, allow you not to waste time on “advice” with your PMS, i.e. to think, and perform the necessary movements reflexively. If the acquired skills are needed for evolution, nature supplies them to people of the next generations by creating the appropriate neural-genetic structures.

MSO is able to reproduce any thought-vibrations formed by the PMS. The power of such vibrations is not great, but if they are long and multiple to the natural frequencies of an object or phenomenon in the universe, then in the resonance mode such vibrations can cause vibrations sufficient, say, to produce a change in this object or phenomenon. Thus, thinking, as a product of the evolution of Matter, can serve evolution itself. Kaznacheev uses the term “intelligence”, not “thinking”: “...the properties of intelligence are the properties of evolution, increasing improvement, accumulation of memory tools... They are concentrating more and more, and, apparently, the modern discovery, the decoding of the macromolecular genome, to some extent reflects a certain, not very large degree of accumulation of evolutionary information of human or animal intelligence” [7, p. 55]. Moreover, he, following Konstantin Eduardovich Tsiolkovsky and Vladimir Ivanovich Vernadsky, considers the transition “from heterotrophy to autotrophy — to field life”, to the noosphere as the main vector of the direction of human survival: “Spirituality and the world should be outlined as the movement of evolution towards cosmic planetary autotrophy — the formation of cosmoplanetary intelligence. In this we see the ways of survival and preservation of humanity” [7, p. 61].

8 Abstraction Levels

The notion of “level of abstraction” is associated with the concentration-tuning of the interlocutors’ thinking to one worldview, concepts, notions and terms that the answers are adequate to the questions asked in the process of discourse. Let’s briefly go over some of the attributes of thinking.

Thinking is a cognitive activity of a person. It is an indirect and generalized way of reflecting reality. Thinking is opposed to “lower” methods of mastering the world in the form of sensations or perceptions. The result of thinking is thought (concept, meaning, idea). **Concept** – the emergence of a theoretical point of view on the situation about which the discourse is conducted [8]. **Notion** is a thought that, by pointing to a certain attribute, both selects and collects (generalizes) objects (that have this attribute) from the universe. Words and phrases denoting concepts are called **terms**. The **universe** is a set of objects and phenomena as a whole, that exists in our consciousness as an idea of the world around us. **Abstract thinking** — the formation of abstract concepts and the operation of them. With abstract thinking, a person concentrates exclusively on the delivery-perception of a thought or idea. In this type of thinking, images and symbols are often used, both generally known and those that get their meaning based only on the thought process or discussion itself. **Abstracting** is a method of phased production of concepts that form more and more general models — a hierarchy of abstractions, it is a distraction in the process of cognition from insignificant aspects, properties, connections of an object (object or phenomenon) in order to highlight their essential, natural features. **Abstraction** is a generalization of the result of abstracting. The **level of abstraction** is the degree of abstraction of the discussed concept from some attributes.

Depending on the goals and objectives, you can talk about the same object at various levels of abstraction. For example, one can speak about a metal sample at a mechanical, chemical or physical level, using the terminology inherent in each of them. Without an explicit indication of the level of abstraction for a chemist’s question, a mechanic or a physicist, having understood the question at their own level of abstraction, may give an inadequate answer.

9 Recursiveness When Exploring Systems

Let us introduce three very short definitions sufficient for reasoning at our very general level of abstraction: “**Metaphysics** is transcendental physics”, “The **system** is what is being investigated” and “**Model** is the result of studying the system”.

In our opinion, the study of any system, subsystems and elements in a thought experiment should logically consistently and recursively scroll them down, down to the deepest structures of Matter, and vice versa, lift them back up from the deepest depths, reproducing what is being investigated. At the same time, depending on the purpose of the study, the constructed recursive model of the system should to stop at any mental level of recursion for a more detailed and comprehensive consideration. Anything explored at one level of recursion must belong to that particular level of abstraction. In addition, conceivable mutual transitions between the levels of recursion should be

provided by acceptable consistent mental procedures for transforming objects from one level to another.

Let's consider an example. Any biological organism in our physical world has its own construction program — the genome. And what is the computer running this program? If in the case of mammals, it is somehow possible to imagine the mother's organism as such a computer, then what about birds? Imagining an eggshell as a computer in the physical world is already somewhat more difficult.

It is known that modern computer technologies make it possible to create real 3-dimensional physical objects on 3D printers in accordance with the results of the execution of special programs on computers to which these 3D printers are connected. However, all artifacts, in our understanding, are the results of modeling something peeped from nature, so the design technology on 3D printers is most likely inspired by some natural processes.

From our model of Matter structuring, the process of building biological organisms looks like this. The mental genome first develops, on its basis — the emotional genome, then — the physical genome, and appropriate “computers” are created to promote these genomes on the mental, emotional and physical levels. The prudent nature did not begin to carry out the processes of genetic construction of biological organisms (at least on Earth), each time repeating the entire way of structuring Matter, but uses the already existing “building materials” of the level for which the organism is according to the corresponding genome. Therefore, a pregnant mother needs enhanced nutrition for herself and her baby. The mental, emotional and physical genomes are tightly linked. The program of the physical genome is connected with the programs of the emotional and mental genomes. The theoretical and experimental substantiation by Petr Petrovich Gariaev of wave genetics as a direction in biology [9] to some extent confirms our reasoning. In addition, we will quote Kaznacheev: “... if we compare objective phenomena that are present in the surrounding world and are observed in humans and animals, then, undoubtedly, field forms will also be found... These field forms of cosmic intelligence are constantly present in the world and also evolve.... the more we delve into the social nature of animals, insects, certain groups of plants or mammals (this applies to freshwater, amphibians, reptiles), the more we are convinced that intracellular, intercellular interaction is replenished with field information flows”. [7, pp. 55–56].

Summarizing this section, we note that the above three programs of genomic construction are recursive. For example, a program for the construction of a particular protein recursively refers to itself until a special gene corresponding to a given protein signals the need to stop “recurring” of this construction program.

10 The Ideal and the Material: A New Look

Let's now consider the concepts of “ideal” and “material” in the light of the proposed above model of structuring, considering the levels of abstraction. From our point of view, the material macrocosm is “built” into the universe, at the base of which lies the pramatter or the flow of Ether [6]. The “ideal” in our model is what is at the lowest levels of structuring — emotional and mental. Thus, the specificity of the “ideal” is that

its substantial particles and structures are many, many orders of magnitude smaller than the substantial structures of our physical world. At the same time, material reality is generative, primary in relation to the ideal. The “ideal”, consisting of ideas, ideals, prototypes accessible to man through what is commonly called consciousness, had arisen long before man realized it in our physical world. The ideal in our understanding is based on the material substance of our macrocosm. “Ideal” is a material kind of reality, which sharply differs from the physical only in its scale and internal structure. Indeed, Mr. Leibniz would not have been able to find any carriers of the ideal at the level of the physical world, but from this the “ideal” does not cease to belong to the deep levels of the material macrocosm. We support the opinion of Democritus that the human soul, like the entire surrounding world, consists of atoms, only lighter and more mobile, and completely disagree with the concept of idealism that the “ideal” is a priority substance that exists before and independently of the material world. Although we agree that the “ideal” (thoughts, ideas, images) promotes to the structuring of the material in the form of evolutionary self-organization of Matter.

It is interesting that the meridian structure-antenna of some people is able to receive vibrations not only of their PMS, but also of deeper levels of the mental world (showing, as it were, farsightedness), which means that it is not so clear to recognize the vibrations of less deep levels, which makes them fight for the “ideal” as the basis of everything, including the material.

11 The Subjective and the Objective: A New Look

When we spoke above about the traditional view of the subjective and the objective, we highlighted the phrase “... we should not talk about the materiality or immateriality of systems, but about the approach to research objects as systems...” Everything seems to be correct, but why not talk. Let’s recall the above “Structural model of a person” and “Mechanism of thinking”. The human body in our physical world is just a receptor-proprioceptor system with a receiving-transmitting meridian antenna for two other main (experiencing and thinking) parts of his whole organism (PPS + PES + PMS). A prudent nature, while providing freedom of choice, at the same time uses templates for all life processes and all native structures. Let us recall at least the process of genetic reproduction of biological organisms, which is quite indicative in this sense.

So, if the traditional vision of subjectivism consists in the ideas of a particular person, personality about the world around us, then we clarify it (this vision). Personality is a native structure, consisting of three main parts: PMS + PES + PPS. PMS thinks, PES colors thoughts emotionally, and PPS acts in the physical world, working out various ways and methods of further evolution of Matter, starting from the level of the created physical world with super-complex structures such as the human brain. So, for example, a person, in the usual understanding of him as a phenomenon, on the one hand, by his vital activity complicates his biological structures, the same brain, and, on the other hand, tries to penetrate into the deep structures of Matter itself, its internal structure, “helping” the native structuring with their nanostructures on 3D printers or genetic modification of certain natural biological structures, or creating digital technologies and self-learning AI distributed throughout the planet.

At the same time, all human research activity is limited both by the possibilities of training his natural abilities, and by the level of achievements of modern technologies. Within the framework of this article, we are only talking about the limitations of the ranges of sensations or measurements, including the range of intuitive extraction of knowledge about the observed in systemic studies.

From our point of view, a person as an integral system is formed by reuniting the PMS and PES with the PPS that begins after fertilization. PMS and PES consist, among other things, of mental and emotional patterns stored as on flash drives in their memory structures. These patterns after the birth of a person become his personal (his personality), i.e. subjective. It is them that a person extracts, so to speak, intuitively; it is him who is entrusted with developing and multiplying them by the Evolution itself. The totality of all PMS and PES, or rather their “average sum” of samples, represents what is called *objective* or simply *generally accepted*. Those people who can tune their mental vision to the perception of other subjects stored in the memory of PMS and PES, or at deeper levels of the most objective, are considered intellectually more developed, brilliant, wise.

Now let's recall the inseparable didactic trinity — “knowledge, ability, skill”. The point is that man is a social being. *Knowledge*, starting from birth, is given by the family, school, mentors from the surrounding society. More precisely, a person is taught to use objective knowledge. Then the person is taught the *ability* to use this knowledge. And, finally, if a person takes the trouble to work out the acquired skills to use the existing knowledge to the level of *skills* that justify certain evolutionarily significant aspects of life in the physical world, his knowledge by some native mechanisms is neatly built into the storage of his PMS and PES or even into the storage of the objective.

The researcher, with his subjective thoughts-reasoning, introduces changes through mental and emotional fields into the system under study itself, and, moreover, into the resulting model and its constructive embodiment. It is another matter to what extent the scale of these changes is accessible to the modern level of development of sensations or measurements.

We will end this section with a quote from Kaznacheev's book [7, pp. 51–52]: “Objectivity is what exists, as indicated in the definition, in our sensations, reflections, devices, but there is also what exists outside of our perception, our sense organs and all measuring or other devices. This means that if we talk about objectivity, then it has a double meaning – the semantic content within itself. The first is what is given in the sensations, reflections and perceptions of a person and devices, and the second is what exists outside of us, outside of our perception.”

12 On the Question of the Very Study of Systems

In our opinion, recently the issues of metaphysics (investigating essence), to put it mildly, have been bypassed. So, when studying systems, it is need to scroll through them on various levels of Matter structuring, considering that metaphysics is a zone free from levels of abstraction, where anyone can say anything without fear of ever being proved wrong, as long as the basic law of non-contradiction is respected. “Such

an unconstrained game of ideas should be found dull and frustrating by anyone genuinely interested in the advancement of knowledge and understanding.” [1, p. 60; 10–14] Especially now, when the information revolution we are observing, changing the physical reality and ourselves, causes a metaphysical drift – a change in our understanding of the ultimate reality together with a change in the information environment. This leads to a rethinking of our metaphysics (our understanding of the world around us) in informational terms. The information environment is being transformed from a way of designating the information space into a synonym for reality itself, which we begin to perceive as a kind of information metaphysics. And this is already so close to the invisible (hopefully only for now) deep levels of structuring of Matter.

13 Conclusion

The considered model of structuring offers a single substantive basis for what has been opposed to each other and was called “ideal” and “material” until now. This model simplifies, but also deepens (ontologically) the study of systems by the fact that everything comes down to one substantial basis and the natural evolution of Matter, starting with its emergence from pramatter — an innumerable set of Platonic solids that make up the substance of the stream of Ether, swirling in the Great Void by the energy of its constituent parts — P-quanta. Where did the Great Void with its P-quanta come from, who replenishes the P-quanta themselves with energy, humanity will probably never be able to find out reliably. But, starting from the moment of the emergence of Matter from pramatter, then everything seems to be more or less clear and naturally evolving. At first, the increasingly complex structures of Matter reflect the environment purely mechanically, contributing to the growth of more and more complex structures. These increasingly complex structures begin to reflect each other in a more complex way, reproducing each other’s certainty in the form of a change in their own certainty, and so on until the emergence of that level of reflection, which is now called thinking, awareness, etc. The Evolution of Matter continues, but already with the mental participation of the emerging structures thinking up to their generalized manifestation in the form of psychical or soulful processes. And, finally, even greater evolutionary complications of the structures of the emotional and mental worlds in the general process of the evolution of Matter lead to the emergence of super-complex structures of inert and living matter up to the creation of such as the human brain.

Thus, the entire evolution, from the moment the mental world emerged, takes place under the direct influence of the thinking mechanism, which sharply accelerates the evolution process itself (in a similar way, artificial intelligence created by man begins to develop itself, for example, with the help of so-called machine learning, multiplying the intellectual capabilities of man; in other words, artificial intelligence does the same for the development of man as thinking does for the evolution of Matter). The most evolutionarily interesting structures and mechanisms arise and remain in the memory of the mental world — the mental world teaches itself and advances along evolutionary steps. So, evolutionarily the best samples of thoughts, ideas, concepts, categories, paradigms, worldviews are stored in the memory of the mental world, and the evolution of all this “ideal” is influenced by humanity with its digital technologies.

It remains for a person to realize all this deeper and expand the possibilities of his ineradicable desire for knowledge, including through the adoption of more developed models of the device of the entire universe with its native communication mechanisms. For the most fundamental levels of abstraction, it is probably necessary to cultivate and develop good explanatory dictionaries with clear formulations of all used fundamental terms, notions, concepts, paradigms and worldviews in general, with cross-references from dictionaries of one fundamental level to related terms and concepts of dictionaries of other fundamental levels.

References

1. Floridi, L.: *The Philosophy of Information*. Oxford University Press Inc., Oxford (2011)
2. Babenko, I.A., Vladimirov, Y.: Relyatsionnyy vzglyad na printsipy geometricheskoy paradigm. *Metafizika* **3**(37), 69–81 (2020). (In Russian)
3. Denisov, A.A.: *Vvedenie v informatsionnyi analiz sistem*. Tekst lektsii, 52 p.. Izd. LPI, Leningrad (1988). (In Russian)
4. Volkova, V.N, et al.: *Teoriia sistem i metody sistemnogo analiza v upravlenii i sviazi*, 248 p. Radio i sviaz, Moscow (1983). (In Russian)
5. Boscovich, R.J.: *A theory of natural philosophy*. Latin–English edition from the text of the first venetian edition published under the personal superintendence of the author in 1763. Open Court Publishing Company, Chicago–London (1922)
6. Tunda, V.A., Tunda, E.A.: Propedevtika ili zachem vozvrashchatsia k voprosu pramaterii// *Kommunikativnye strategii informatsionnogo obshchestva: trudy XII Mezhdunar. nauchno-teoreticheskoi konf*, 23–24 oktiabria 2020, pp. 223–234. Politekh-Press, St. Petersburg (2020). (In Russian).
7. Kaznacheev, V.P.: *Dumy o budushchem*. Rukopisi iz stola, 208 p. Izdatel, Novosibirsk (2004). (In Russian)
8. Pavlov, K.A.: O kontseptsiiakh logiki i smysle modelirovaniia “logicheskikh rassuzhdenii.” *Filosofskii zhurnal [Philos. J.]* **2**(3), 93–117 (2009). (In Russian)
9. Gariaev, P.P.: *Volnovoi genom*. Monografiia. In: *Entsiklopediia russkoi mysli v 23 tomakh* (1993–2014 gg.), vol. 5, 279 p. Obshch. polza, Moscow (1994). (In Russian)
10. Floridi, L.: The logic of design as a conceptual logic of information. *Mind. Mach.* **27**(3), 495–519 (2017). <https://doi.org/10.1007/s11023-017-9438-1>
11. Floridi, L.: Soft ethics and the governance of the digital. *Philos. Technol.* **31**(1), 1–8 (2018). <https://doi.org/10.1007/s13347-018-0303-9>
12. Floridi, L.: Translating principles into practices of digital ethics: five risks of being unethical. *Philos. Technol.* **32**(2), 185–193 (2019). <https://doi.org/10.1007/s13347-019-00354-x>
13. Floridi, L.: What the Near Future of Artificial Intelligence Could Be. In: Burr, C., Milano, S. (eds.) *The 2019 Yearbook of the Digital Ethics Lab*. DELY, pp. 127–142. Springer, Cham (2020). https://doi.org/10.1007/978-3-030-29145-7_9
14. Floridi, L.: AI and its new winter from myths to realities. *Philos. Technol.* (Feb. 2020). <https://doi.org/10.1007/s13347-020-00396-6>