Since Justinian closed the last Greek School of Philosophy (Plato’s Academy) in 529, researchers stopped searching for basics of the material world of sense beyond its boundaries. This book describes a try to make usage of methodology of transdisciplinarity-4 in order to read knowledge of ancient philosophers again and adopt this knowledge to solution of fundamental problems of modern science, nature and society. The book is a subject to public reading. It is also intended for a wide range of specialists of different scientific fields, interested with solving of interdisciplinary problems, complicated multi-factor problems of nature and society and also for students, postgraduates, teachers and lecturers.
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Introduction

In the days of ancient philosophy our Universe used to have more euphonical domination – the material world of sense or the sensible world. Ancient philosophers paid their attention to the peculiarity that motion of objects is based on the Reason-Principle overall the world and their development demonstrates “obvious purposefulness”. According to them the attributes of the sensible world could not spring just from principles of self-organization. “Something“ or “Someone” had certainly existed before appearance of the world.

Could God as the First [principle] of the sensible world be the Primal? He could. But then it is necessary to show how God could appear Himself and form the programs (ideas) of development of all the past, present and future phenomena, objects and processes. Such an answer as “God existed always” is similar to the statement “The world is self-organized” and does not explain anything in fact. Moreover, attributing God to the “temporal” Universe can be dangerous for His “eternal” existence. Thus ancient philosophers tended to find the First (one) principle or just the First. They truly believed that philosophical category “many”, that refers to a number of phenomena, objects and processes in the Universe represents the reflection of the First in itself. Herewith the First is indifferent to its own reflection. The reflection is directly connected with the First. So it testifies it.

But how is indefinite One-First can be reflected in number of phenomena, objects and processes in the Universe on any level of its being? Such a reflection is possible on two complementary conditions. Firstly, it is possible if the First is an order, which determines the unity (or oneness) of the First. Secondly, this order must represent logical and geometrical construction. These conditions allow the order and construction to “transdescend”, according to Platinus, to every phenomenon, object and process of the material world of sense on any level of being. A man is one of the objects. According to these conditions a man may reproduce and decode all the fragments of the order and elements of the construction just mentally (intellectually). The results of these actions will allow to approach closely to the origins of being of both worlds: the world of One-First and the world of sensible reality (the Universe). Therefore the time to “reanimate”, complete and retell the knowledge of ancient philosophers with modern language about the Intellectual (noetic) world has certainly come. It is found to be the world that
supplied the world with the “Intellectual-Principle”, “Soul”, “Beauty” and let it develop and improve despite its obvious indifference to the objects of sense.

Cognition of the sensible world urged formation of human society and creation of technologies so that to satisfy the needs. One may just guess what can be taken for contribution of technologies as results of cognition of the Intellectual world.

**The Intellectual (noetic) worlds of Plato and Plotinus**

A nous (Greek intelligence, mind) is a philosophical term. In contrast to *phenomena* (sense-perceptible), *nous* were determined by Plato as phenomena and objects which are not directly accessible to observation and is equated to the world of ideas known to philosophical mind. This term also nominated on of the most important object of ancient philosophy – the world of bodiless reality (the *noetic* world) or the Intellectual world. As ancient philosophers believed the Intellectual world precedes the *sensible world* (or the *phenomenal* world). Such an understandable construction of the worlds had not been causing any doubts for fifteen hundred years.

Most of contemporary scientists do not tend to get to learn the Principles of the sensible world so profoundly. They are certainly satisfied with a statement that says that our Universe has material origin known as the “Big Bang”. In this case all the answers under questions can be given just by (within) exact science, such as physics and mathematics. However, on account of objective reasons, methods of these sciences are valid in visual part of the Universe, which limited by singularity – internally and “boundary” galaxies – externally. On such conditions specialists of rational knowledge have difficulties with searching beyond the boundaries of visual Universe and even answer the question – “is it the only one?” Scientists have to form hypotheses to answer the questions. However the truth of such hypotheses can not be always verified practically.

Astrophysics has one of the most illustrative examples in concern of formation of hypotheses. In 1986 physicist A. D. Linde and mathematician A. A. Starobinsky suggested a new approach to solution of a problem – “is there the only (one) Universe where we live now or there are a lot ( or indefinite number) of universes?” The scientists suggested that there are quantum
fluctuation of its singular parts possible on condition of enormous flatness, which accompany initial state of the Universe (fluctuation – lat. a random dimension from value of its average point defining a system of a significant number of parts). As fluctuations begins, every minimal part swells up with such a speed that its own parts start losing connection between each other, but keep causality within. In further such an area evolves apart from the other neighbor areas and represents a single “mini-universe”. As scientists believed every single mini-universe will create with time new mini-universes (the second generation of mini-universes and so on). Resulting swollen mini-universes lose an opportunity to exchange signals and develop basically isolated and independent. Every mini-universe may have rather different physical laws. Because of fluctuating initial conditions their origin history is not similar as well. In such a model the burst of the Universe is infernal…[1]. Description of such hypotheses usually ends up with the following phrase: “Future will show how far this hypothesis is real”. However in a number of cases affirmation or rejection of such hypotheses may and must be not in the hazy future, but the acute past! Since just the past faced first tries to get to know the mystery of fundamental principles of the world, which found to be “the One” and “Supreme”. Thus it is reasonable to reanimate this “acute past”. Authoritative researches of the Intellectual world, such as Plato and Plotinus can help us to do that.

Studies on the works of Plato and Plotinus, philosophical directions of Platonism and Neo-Platonism based on speculations of these philosophers were widely presented in scientific literature. A number of opinions related to the philosophers and their works varies from condescending attitude ”the Greeks were normal children and an adult will always remember his childhood with love if it was normal” (K. Marks) to official declaration that Platonism and Neo-Platonism are considered to be “idealism and mysticism”. Actually the speculations about the origin of the world, “which goes without saying” seems too exotic for representatives of rational knowledge! It is much more understandable to imagine some “perceptible” things as the big turtle at the heart of the world with elephants on its shell or initial area (singularity) which involves space and time, substance and matter mixed all together. However the questions remain being no less “perceptible”: “Who created turtles and elephants? Who gathered all the matter to one point and animated it?”
Philosophy has always served as basis for natural science. But dialectics was not always perceived as “unity and conflict of opposites”. At one time it was nominated as “art of discussion in sake of the truth” [2]. Consequently, it is rather possible that analyses of virtual dialogue of Plato and Plotinus in regards to the essence of the bodiless world will allow to find the truth for the questions related to the Primal First. The process of this dialogue should be carried out within the “transdisciplinary philosophy of the Intellectual world”. Therefore it is necessary to back on rather essential ontological and gnosiological aspects of the works of these philosophers along with transdisciplinary logical and geometrical models.

Referring to the works of Plato it is necessary to take into consideration a principally important circumstance, which had been noticed by P. P Gaydenko, PhD. She writes: “We have already noted in the course of analyses of the dialogue “Parmenides”, that Plato does not separate the act of understanding (cognition) from the act of calling (denomination). Everything what is impossible to embody in the speech or a word is alogical or incognizable. Consequently that is why Plato does not separate the analyses of cognizable structure from the analyses of speech; structures of a language are basic logical structure of a thought. Therefore we can certainly admit that this way of description of ratio of the one and many, which we find in the dialogues of Plato was initially adopted in Greek science by sophists while analyzing the language. So it is no coincidence that just the sophists were the first Greek grammaticians and philologists; probably they were the ones to have also discovered such a paradoxical nature of the word and sentence, which was later fully expressed by Plato [3].

But the fact that the analyses of the language urged the nature of thinking as a ration of the one and many shows the following from the dialogue “Philebus”:

Socrates says: “We say that the one and many become identified by thought, and that now, as in time past, they run about together, in and out of every word which is uttered, and that this union of them will never cease, and is not now beginning, but is, as I believe, an everlasting quality of thought itself, which never grows old. Any young man, when he first tastes these subtleties, is delighted, and fancies that he has found a treasure of wisdom; in the first enthusiasm of his joy he leaves no stone, or rather no thought unturned, now
rolling up the many into the one, and kneading them together, now unfolding and dividing them” [4].

Using this paradoxical nature of the word [thought] the ancient philosophers often and multifariously speak about the one and many, the Intelligence (the Intellectual-Principle) and Soul – those Principles which had been denominated so originally and preceded the sensible world.

The researcher of ancient philosophy A. F. Losev says the following:

“... Since the matter and idea were treated of by the ancient philosophers passively and reality was in constant motion, it was not satisfied with only one matter and only one idea. Since there is nothing that can exist but reality, the reality must set into motion itself. Everything that could set oneself into motion was called by the ancient philosophers as life or soul; and the fact that the motion was set appropriate required to admit the Reason-Principle of the motion, called as the Intellectual Principle by those philosophers. Two circumstances must be taken into consideration because of importance of the ancient specification of these categories. Firstly, the Intellectual-Principle and Soul were not discussed as subjectively human, but objectively cosmic. Since it referred to the reality itself, there was no need in the antiquity to discuss the leading principles as just subjectively human. Subjectively human soul and intelligence were treated of just as reflection of its objective analogues. Moreover this reflection was considered to be rather weak. Secondly, the initial intuition did not concern personality, but substantial corporality, as Soul and Intellectual-Principle were treated of in the antiquity beyond personality. Soul was a principle of self-motion and motion, but it did not mean it was personality. The cosmic Intellectual-Principle was also a reasonable idea out of Cosmos, but not such a personality, which would consciously and purposefully act, namely – in accordance with his free will and needs. Such Soul and Intellectual-Principle act just so and never otherwise not because of their intentional will, but internal nature” [5].

In order to cognize the Supreme (the First), which is the Primal for the Intellectual-Principle and Soul, Plato uses hypotheses (admissions):
“... And clinging to this (the principle, which is already not hypothetic) and then to that which depends on this, by successive steps she (the mind) descends again without the aid of any sensible object, from ideas, through ideas, and in ideas she ends” [6].

A method of adoption of some admission (hypothesis) with observation of the affirmations which come out of the hypothesis was consequently called as hypothetic and deductive method. As P. P. Gaydenko believes that Plato was the first one who applied this method. Its further development was carried out by Aristotle and its usage in mathematics was implemented due to contemporaries of Plato, such mathematicians as Archytas and Eudoxus and etc.

Doubtless this method was of great importance for development of science in general. However one should pay attention to some particularities related to the goal of transdisciplinary philosophy of the intelligible world. So, Plato tends instinctively towards simplification of cognition of an object, which cannot be taken by mind completely. The one, as an object, is too mysterious: “there is no name, nor expression, nor perception, nor opinion, nor knowledge of it” [7]. Being in such relations with the One, Plato has to set all the initial conditions for it by himself, taking them to the essence of admissions. For example, Plato uses the first four hypotheses in the dialogue “Parmenides” which had been applied with a general admission, such as: the One exists, although the word “exists” is recognized differently. The hypotheses have also another admission with other meaning: the One does not exist. Then Plato traces the results of “existence” and “non-existence” of the One and also of the other, multitude, which, as he believes, has to accompany the One during its existence. Quoting Plato, Gaydenko concludes the following:

“... If “One existing” is a system, it is an integral and “One” and “Being” are parts of it. Thus, in comparison with the first hypotheses, which said: “the One is one”, now we can connect the One with such attributes as an integral and its parts. Since each part is not single, but a part of the integral, denominated as the “One existing”, every part is connected with another one: the One cannot exist without being as a “part” of it and the Being cannot exist without the One. Thus, each of the parts also has in turn both one and being, and is at the least made up of two parts; and the same principle goes on for ever,
and every part whatever has always these two parts; for being always involves one, and one being; so that one is always disappearing, and becoming two. And so the one, if it is, must be infinite in multiplicity?"[8].

Well, the general conclusions have been made! And probably there are just a few of us who still remember that they were based on hypotheses. This means that the initial conditions of the One were hypothetically formed by a man. Although this logic belongs to a genius, it remains being just logic, but not the attributes, which can be demonstrated by the One itself! Is it possible to attribute with certainty to something existence or non-existence if this something has “no name, nor expression, nor perception, nor opinion, nor knowledge of it”. But, probably, the One has some condition, which cannot be described with terms such as “existence or non-existence”? The One is the First and the First principle must be a simplex, even when it concerns the organization of its Being. But according to Plato there are not one, but two initial conditions related to the One itself as its derivative (the many) as well. In this case Plato did as all the mono-disciplinary scientists do at present– he implemented the process of modeling, which admits simplification and “placing” the model of an object beyond all of the possible attributes and characteristics, which are not of interest for a researcher. As a result some attributes of an object, which influence in reality significantly on its characteristics, can be accidently placed “beyond”. What is it a ”simplex”, for example, and what does it show? Instead of responding to the questions of Plato we affirm the following: The One is one and existing One is integral. This result is of great importance for science. But for people who want to know – what is the One as the first principle of everything (or not everything?), this result is just some kind of misunderstanding of ontological nature (what is the One?) and of genoseological nature (how can the One be cognized?).

In turn, according to A.F. Losev, Plotinus presented “the purest dialectics, just logical, just constructive” and had a two-way approach to research the One. Plotinus does not devise hypotheses, as Plato does. He is sure that his intelligence, his own soul are fragments of the Intellectual-Principle and the Soul, composing the Intellectual world. Consequently, cognition of the One is possible not just while “devising hypotheses”, but with “daring of soul”. Nowadays this approach is likely to be called as meditation or intuition, which represents the knowledge of the absolute type. But even in those days Plotinus understood that it was necessary to separate
the “fruits of fantasy” from the “results of cognition”, implemented in such a strange manner. Thus in his works he tries to explain methodological fundamentals of cognition of the One with all the possible means and expressions:

“... But if we seek the vision of that great Being within the Inner Sanctuary- self-gathered, tranquilly remote above all else- we begin by considering the images stationed at the outer precincts, or, more exactly to the moment, the first image that appears” [9].

Then Plotinus gives notice of difficulties, which will follow a human soul during contemplation of the First:

“... The soul or mind reaching towards the formless finds itself incompetent to grasp where nothing bounds it or to take impression where the impinging reality is diffuse; in sheer dread of holding to nothingness, it slips away. The state is painful; often it seeks relief by retreating from all this vagueness to the region of sense, there to rest as on solid ground, just as the sight distressed by the minute rests with pleasure on the bold.

Soul must see in its own way; this is by coalescence, unification; but in seeking thus to know the Unity it is prevented by that very unification from recognising that it has found; it cannot distinguish itself from the object of this intuition. Nonetheless, this is our one resource if our philosophy is to give us knowledge of The Unity.

We are in search of unity; we are to come to know the principle of all, the Good and First; therefore we may not stand away from the realm of Firsts and lie prostrate among the lasts: we must strike for those Firsts, rising from things of sense which are the lasts. Cleared of all evil in our intention towards The Good, we must ascend to the Principle within ourselves; from many, we must become one; only so do we attain to knowledge of that which is Principle and Unity.

If quester has the impression of extension or shape or mass attaching to That Nature he has not been led by Intellectual–Principle which is not of the order to see such things; the activity has been of sense and of the judgement following upon sense; only Intellectual–Principle can inform us of the things of its scope; its competence is upon its priors, its
content and its issue: but even its content is outside of sense; and still purer, still less touched by multiplicity, are its priors, or rather its Prior.

The Unity, then, is not Intellectual–Principle but something higher still: Intellectual–Principle is still a being but that First is no being but precedent to all Being; it cannot be a being, for a being has what we may call the shape of its reality but The Unity is without shape, even shape Intellectual.

Generative of all, The Unity is none of all; neither thing nor quantity nor quality nor intellect nor soul; not in motion, not at rest, not in place, not in time: it is the self-defined, unique in form or, better, formless, existing before Form was, or Movement or Rest, all of which are attachments of Being and make Being the manifold it is“ [10].

Probably, exactly these gnoseological positions lead to an overall calling Plotinus as a mystic. Definitely it made sense! So according to Plato one should just learn to form hypothesis and be just rather educated so that to cognize something unknown. In contrast, according Plotinus it was not enough, since one should be not just educated, but highly descent. The difference is fundamental since in fact it closed the path to science for many people! Despite all the admiration and respect to the world of scientists of those days there were no doubts to predict the option the infant science could choose! Mystics and faith to the bodiless world, although, had nothing with that obvious dialectics of proofs demonstrated by Plotinus:

“... We have, of course, already seen that a secondary must follow upon the First, and that this is a power immeasurably fruitful; and we indicated that this truth is confirmed by the entire order of things since there is nothing, not even in the lowest ranks, void of the power of generating. We have now to add that, since things engendered tend downwards and not upwards and, especially, move towards multiplicity, the first principle of all must be less a manifold than any.

That which engenders the world of sense cannot itself be a sense-world; it must be the Intellect and the Intellectual world; similarly, the prior which engenders the Intellectual-Principle and the Intellectual world cannot be either, but must be something of less multiplicity. The manifold does not rise from the manifold: the intellectual multiplicity
has its source in what is not manifold; by the mere fact of being manifold, the thing is not the first principle: we must look to something earlier.

All must be grouped under a unity which, as standing outside of all multiplicity and outside of any ordinary simplicity, is the veritably and essentially simplex” [11].

From our point of view, Plotinus demonstrated truly objectively cosmic attitude to the One, in contrast with Plato’s subjectively cosmic attitude to it. The first one is based on indisputable attributes of Being of the One. He presents the One as the following:

“... The essential unity is no aggregate to be annulled upon the loss of some one of the constituents; nor is it held within any allotted limits, for so it would be the less for a set of things, more extensive than itself, outside its scope; or it must wrench itself asunder in the effort to reach to all; besides, its presence to things would be no longer as whole to all but by part to part; in vulgar phrase, it does not know where it stands; dismembered, it no longer performs any one single function.

Now if this principle is to be a true unity- where the unity is of the essence- it must in some way be able to manifest itself as including the contrary nature, that of potential multiplicity, while by the fact that this multiplicity belongs to it not as from without but as from and by itself, it remains authentically one, possessing boundlessness and multiplicity within that unity; its nature must be such that it can appear as a whole at every point; this, as encircled by a single self-embracing Reason-Principle, which holds fast about that unity, never breaking with itself but over all the universe remaining what it must be” [12].

Due to different gnoseological approaches to researches of the One, Plato and Plotinus got different descriptions of the Being.

According to Plato the One is a system, which represents an integral and the “One” and “Being” are considered to be just parts of this system:

“... Thus, each of the parts also has in turn both one and being, and is at the least made up of two parts; and the same principle goes on for ever, and every part whatever
has always these two parts; for being always involves one, and one being; so that one is always disappearing, and becoming two. And so the one, if it is, must be infinite in multiplicity?" [13]

Plotinus determines the One as a system as well. But this system does not have any parts, but fragments of the same One, which are united together by some special order:

“... When we affirm unity in multiplicity, we do not mean that the unity has become the multiples; we link the variety in the multiples with the unity which we discern, undivided, in them; and the unity must be understood as for ever distinct from them, from separate item and from total” [14].

Consequently, the “Plotinus system” is an order, which conditions unity of all the fragments of the existing One.

As a result: the Plato system measures the number, which unites all the parts (by their manifold) and the Plotinus system measures the transdisciplinary “unit of order”, which had been mentioned by Plotinus allegorically:

“... Our answer must be that the unity is that of a participation in the primal unity with the participants remaining distinct from that in which they partake; the dyad, in so far as it is one thing, has this participation, but in a certain degree only; the unity of an army is not that of a single building; the dyad, as a thing of extension, is not strictly a unit either quantitatively or in manner of being.

Are we then to take it that the monads in the pentad and decad differ while the unity in the pentad is the same as that in the decad?

Yes, in the sense in which, big and little, ship is one with ship, army with army, city with city; otherwise, no” [15].

It is known that philosophy of Ancient Greece had significant influence on science. In this point the most important influence of Plato and Plotinus was found in foundation of fundamentals of system thinking and system approach to cognition of the ambient world.
Nowadays we can certainly admit that Plato’s understanding of the system based “analytical”, dividing philosophy and corresponding disciplinary science. Just the usage of analytical (disciplinary) science which helps to devise, affirm or reject hypotheses provided the modern mankind with diverse knowledge concerning a man, nature and space.

In turn Plotinus’s understanding of the system became basis for philosophy of organic unity, interconnection and interdependence of all the fragments of the world during the process of their co-evolutional development and, consequently, for transdisciplinary approaches in science. Therefore one should not call the creative work of Plotinus as Neo-Platonism. It is better to denominate it as “Plotinusism” and Transdisciplinarity-4 – as “Neo-Plotinusism”.

We should also remind that in 1926 South African philosopher Y. Smuts formulated a methodological “principle of wholeness” called as “holism”. According to a number of scientists it meant that appearance of this principle marked the turn of XIX-XX with the end of “analytical” philosophy and the science, corresponding to it. They were replaced by philosophy of interdisciplinarity and transdisciplinarity. However not all the types of transdisciplinary approaches could immediately free themselves from influence of Plato’s view on a system. For example, some types of transdisciplinarity use holism as basis for their conceptions. From the point of view of holism, the world is One Integral and designed separate phenomena and objects are of importance if they are just parts of the unity.

In accordance with transdisciplinarity, which shares the opinion of Plotinus in terms of a system and in contrast with the “holistic (integral) world”, the world is considered to be the One and designed separate phenomena and objects exist as fragments of the One. What is the difference between these pictures of the one and integral worlds, which seem to be rather identical? Can this difference influence on methodology of scientific research?

The picture of the “One World” presupposes its uniqueness (oneness). The uniqueness shows that the world is the only one. The one world has no parts. All the ever possible objects can be just its natural fragments, which co-exist and interact with each other on principles of co-evolution (mutual directed development) [16]. To say it simple – they represent the same World. They can be conditionally or temporary be distinguished by a Subject, discovering their
existence and significant attributes of the World. Exactly a principle of co-evolution determinates existence of so-called “sphere of order” for all the natural phenomena, objects and processes, which can be shown through objective laws and regulations, helping a researcher to cognize the essence of things. Consequently the One world as all its fragments on different levels of reality can be examined by means of one methodology with usage of one picture of transdisciplinary system.

On the contrary, the holistic **Integral World** is compound of *parts*. Thus if the One world will convert into the Whole World, the same conversion will happen to the picture and meaning of the World. The One, as essence of the World will turn into the Whole – as one of the *attributes*. According to this attribute the Integral World is not subject to *partition, division* or *subdivision*. However this picture does not presuppose its *uniqueness* and *oneness*. Therefore the Integral World does not contradict theoretically or practically with existence of other “integral worlds”. Hereby the Integral World does not prohibit all the elements, as the parts of the Integral, to have their own laws, attributes and, as the most important – an interior order of interaction of the parts. Since attributes of the Integral World can not be similar to the attributes of the parts leads to conclusion that there is a principle predisposition of the “Integral and its parts” to have *different goals of existence*. From this point of view a system as “ratio of combination of the parts of the World and objective connection which unites them” looks like a compromise. In turn, presence of such a compromise presupposes such a version, which determines a probable nature of development of the Integral World with never predictable hazy future! And this is not a final point of the compromise. The Integral World has no need to require obligatory parity between the unity and struggle of its parts. Thus parts of the Integral World can easily and “legally” choose “struggle” and eliminate themselves with the Integral World as well or merge into “evolutional impulse” and keep on mutual development. In terms of scientific researches this circumstance may lead to the following. On one hand it will impede the usage of universal methodology. On other hand it will provoke infinite process of creation of narrow-directed and limited methods. Exactly these processes can be observed in modern science.

In such a way presentations of the ancient philosophers led us to fundamentals of the world-view. One of them says that a man, as being a part of the world can *reasonably* oppose the goals of his own development to the goal of development of the world. The other world-view
says that a man, as being a fragment of the world combine naturally the goals of his own development with the goals of the ambient world. What world-view is true? The question is not just trial. The answer could form and introduce in society ideology of a new world social and economical order right in time. Probably, it could be the first order of co-evolutional nature, which could harmoniously combine all the goals and tasks of a man, society, nature of the planet and cosmos.

In order to make the answer not just debatable, it is necessary to develop dialectics of Plotinus to give it the status of a modern scientific discipline, such as transdisciplinary philosophy of the Intellectual world. Why exactly transdisciplinary philosophy? For a reason, that it presents the knowledge of transdisciplinarity-4 along with linguistic formulas, which are subject to implementation in the “act of denomination” of results of cognition. Moreover, it uses transdisciplinary logical and geometrical models, which can finally provide with opportunities to prove experimentally the truth and develop the content of linguistic formulas of Plotinus’s dialectics.

It should be noticed that the idea to confirm the logic with corresponding geometry is not new. Plotinus evaluates this idea as the following:

“... Similarly, as it seems to me, the wise of Egypt- whether in precise knowledge or by a prompting of nature- indicated the truth where, in their effort towards philosophical statement, they left aside the writing-forms that take in the detail of words and sentences- those characters that represent sounds and convey the propositions of reasoning- and drew pictures instead, engraving in the temple- inscriptions a separate image for every separate item: thus they exhibited the mode in which the Supreme goes forth” [17].

It can be summarized as follows.

Antique philosophy, namely philosophy of Ancient Greeks and Ancient Romans arose in Greece in VI B.C. It existed till VI A. D. up to 529, when Justinian closed the last Greek School of Philosophy (Plato’s Academy). So existed the Antique philosophy about 1200 years. But our research focuses just on one of its fragments, which is connected with formation of dialectics of the intelligible (Intellectual) world of Plato and Plotinus. Since Plotinus lived much later than
Plato did, let us take into consideration his own evaluation of philosophers, which had been earlier tried to research the Intellectual world:

"... This is the explanation of Plato's Triplicity, in the passage where he names as the Primals the Beings gathered about the King of All, and establishes a Secondary containing the Secondaries, and a Third containing the Tertiaries.

He teaches, also, that there is an author of the Cause, that is of the Intellectual-Principle, which to him is the Creator who made the Soul, as he tells us, in the famous mixing bowl. This author of the causing principle, of the divine mind, is to him the Good, that which transcends the Intellectual-Principle and transcends Being: often too he uses the term "The Idea" to indicate Being and the Divine Mind. Thus Plato knows the order of generation- from the Good, the Intellectual-Principle; from the Intellectual-Principle, the Soul. These teachings are, therefore, no novelties, no inventions of today, but long since stated, if not stressed; our doctrine here is the explanation of an earlier and can show the antiquity of these opinions on the testimony of Plato himself.

Earlier, Parmenides made some approach to the doctrine in identifying Being with Intellectual-Principle while separating Real Being from the realm of sense.

"Knowing and Being are one thing he says, and this unity is to him motionless in spite of the intellection he attributes to it: to preserve its unchanging identity he excludes all bodily movement from it; and he compares it to a huge sphere in that it holds and envelops all existence and that its intellection is not an outgoing act but internal. Still, with all his affirmation of unity, his own writings lay him open to the reproach that his unity turns out to be a multiplicity.

The Platonic Parmenides is more exact; the distinction is made between the Primal One, a strictly pure Unity, and a secondary One which is a One-Many and a third which is a One-and-many; thus he too is in accordance with our thesis of the Three Kinds.

Anaxagoras, again, in his assertion of a Mind pure and unmixed, affirms a simplex First and a sundered One, though writing long ago he failed in precision.
Heraclitus, with his sense of bodily forms as things of ceaseless process and passage, knows the One as eternal and intellectual.

In Empedocles, similarly, we have a dividing principle, "Strife," set against "Friendship"- which is The One and is to him bodiless, while the elements represent Matter.

Later there is Aristotle; he begins by making the First transcendent and intellective but cancels that primacy by supposing it to have self-intellection. Further he affirms a multitude of other intellective beings- as many indeed as there are orbs in the heavens; one such principle as in- over to every orb- and thus his account of the Intellectual Realm differs from Plato's and, failing reason, he brings in necessity; though whatever reasons he had alleged there would always have been the objection that it would be more reasonable that all the spheres, as contributory to one system, should look to a unity, to the First.

We are obliged also to ask whether to Aristotle's mind all Intellectual Beings spring from one, and that one their First; or whether the Principles in the Intellectual are many.

If from one, then clearly the Intellectual system will be analogous to that of the universe of sense-sphere encircling sphere, with one, the outermost, dominating all- the First [in the Intellectual] will envelop the entire scheme and will be an Intellectual [or Archetypal] Kosmos; and as in our universe the spheres are not empty but the first sphere is thick with stars and none without them, so, in the Intellectual Kosmos, those principles of Movement will envelop a multitude of Beings, and that world will be the realm of the greater reality.

If on the contrary each is a principle, then the effective powers become a matter of chance; under what compulsion are they to hold together and act with one mind towards that work of unity, the harmony of the entire heavenly system? Again what can make it necessary that the material bodies of the heavenly system be equal in number to the Intellectual moving principles, and how can these incorporeal Beings be numerically many when there is no Matter to serve as the basis of difference?
For these reasons the ancient philosophers that ranged themselves most closely to the school of Pythagoras and of his later followers and to that of Pherekudes, have insisted upon this Nature, some developing the subject in their writings while others treated of it merely in unwritten discourses, some no doubt ignoring it entirely” [18].

Consequently, we can make conclusion that speculations in concern of the Intellectual world was the most difficult work of all the times. Tries to write the results of thinking down could erase the essence of words, which could be understandable just intuitively. It accompanied contemplation and understanding of an object only during a “live” [animated] conversation. However the centuries-old work of the antique philosophy thoughts let us to form two ontological and gnoseological approaches to the Intellectual world, which were reflected in the works of Plato and Plotinus.

According to Plato, the Intellectual world admits division of both itself (within) and the sensible world by a system, which presents the essence as a combination of parts (an integral). The essence can be cognized through devising of hypotheses. As a result the truth in such a system can be not hypothetic. “Thus a science entire is the total of the relevant considerations each of which, again, is a member of the entire science, a member not distinct in space yet having its individual efficacy in a total”. [19]

According to Plotinus the Intellectual world does not admit the division of itself (or within) and the sensible world by a system, since a system is the one order, which presents the essence as a combination of own fragments of the One. One should cognize the essence while searching the “unity in himself” [20], or, at least, with the science. With usage of the one for all the objects transdisciplinary unit of order Plotinus’s results show that the truth is not hypothetic, but well-defined (the one).

In general, “the outside point of view” allows to note that creative works of both antique philosophers could not continue the opponent’s ideas and thoughts. The only influence on each other’s work was likely to be determination of point of own thinking on one of the sides of the Intellectual world and the sensible world. Both the points and further statements of their own reflections were not always successful. Thus we should pay attention not only at the works of the
philosophers, but at crucial differences of the approaches, which had been created for contemplation of the Intellectual world. Analyses of those differences will allow independently to determine our own role. In this case the point presents the Intellectual world of Plotinus. According to this point and based on transdisciplinary philosophy of the Intellectual world we will try to examine this world in detail. We can examine the essence of all its components through the act of denomination with usage of transdisciplinary linguistic formulas and the act of determination of the nominated with usage of transdisciplinary logical and geometrical models. Moreover we could make the logical and geometrical mechanism clear, which enables the Intellectual world to form and involve the sensory world (the matter Universe).

The Transdisciplinary Intellectual world

Before description of transdisciplinary Intellectual world recall how Plotinus understood the process of its formation:

“... Everything moving has necessarily an object towards which it advances; but since the Supreme can have no such object, we may not ascribe motion to it: anything that comes into being after it can be produced only as a consequence of its unfailing self-intention; and, of course, we dare not talk of generation in time, dealing as we are with eternal Beings: where we speak of origin in such reference, it is in the sense, merely, of cause and subordination: origin from the Supreme must not be taken to imply any movement in it: that would make the Being resulting from the movement not a second principle but a third: the Movement would be the second hypostasis...

It must be a circumradiation- produced from the Supreme but from the Supreme unaltering- and may be compared to the brilliant light encircling the sun and ceaselessly generated from that unchanging substance.

All existences, as long as they retain their character, produce- about themselves, from their essence, in virtue of the power which must be in them- some necessary, outward-facing hypostasis continuously attached to them and representing in image the engendering archetypes: thus fire gives out its heat; snow is cold not merely to itself;
fragrant substances are a notable instance; for, as long as they last, something is diffused from them and perceived wherever they are present.

Again, all that is fully achieved engenders: therefore the eternally achieved engenders eternally an eternal being. At the same time, the offspring is always minor: what then are we to think of the All-Perfect but that it can produce nothing less than the very greatest that is later than itself. The greatest, later than the divine unity, must be the Divine Mind, and it must be the second of all existence, for it is that which sees The One on which alone it leans while the First has no need whatever of it. The offspring of the prior to Divine Mind can be no other than that Mind itself and thus is the loftiest being in the universe, all else following upon it- the soul, for example, being an utterance and act of the Intellectual-Principle as that is an utterance and act of The One. But in soul the utterance is obscured, for soul is an image and must look to its own original: that Principle, on the contrary, looks to the First without mediation- thus becoming what it is- and has that vision not as from a distance but as the immediate next with nothing intervening, close to the One as Soul to it.

The offspring must seek and love the begetter; and especially so when begetter and begotten are alone in their sphere; when, in addition, the begetter is the highest good, the offspring [inevitably seeking its Good] is attached by a bond of sheer necessity, separated only in being distinct” [21].

Plotinus also says:

“… For each manifestation of knowledge and wisdom is a distinct image, an object in itself, an immediate unity, not as aggregate of discursive reasoning and detailed willing. Later from this wisdom in unity there appears, in another form of being, an image, already less compact, which announces the original in an outward stage and seeks the causes by which things are such that the wonder rises how a generated world can be so excellent.

For, one who knows must declare his wonder that this Wisdom, while not itself containing the causes by which Being exists and takes such excellence, yet imparts them to the entities produced in Being's realm. This excellence whose necessity is scarcely or not at
all manifest to search, exists, if we could but find it out, before all searching and reasoning” [22].

The modern science should take from the Intellectual world “one chief thing”, as Plotinus states, “thence applied to all the particular entities”. Beginning of XXI was marked with appearance of such a science, called transdisciplinarity-4. Russian School of Transdisciplinarity and Institute of Transdisciplinary Technologies develop conception and methodology of this science.

Transdisciplinarity-4 suggests detailed examination (contemplation) of the Intellectual world which is found to be beyond the boundaries of the sensible world. Besides the term “intellectual” we will also call it often as the “outer” world, since this nomination seems to be more appropriate. The matter Universe does not push the Intellectual world out, as body of Archimedes did in water. However it has real quantitative and qualitative boundaries. Since Plotinus warns that the Intellectual and sensible worlds have one essence, it is reasonable to keep this unity even while denominating. That is why the term “outer”, spread in transdisciplinary articles allows not to oppose these worlds to each other, but determine the inner and outer boundaries of the second world in the first one.

According to conception of transdisciplinarity-4, the matter Universe and the Intellectual world are fragments of the One Ordered Medium. They are not opposed to each other, but present in each other and represent different states of potency of OOM. Consequently, the Intellectual world has to show all the main attributes of OOM, as the matter Universe does, namely – a system and space. In this case, space should be determined as a form of existence of potency of the Intellectual world. Potency (lat, potential – force), as Plotinus says, is “all omnipotent force of the One” and found to be a hidden force. This force presents in the Intellectual world naturally. Concealment and natural essence of this force are conditioned by the inner structure of the Intellectual world. System is interpreted as an order, which provides the unity if the Intellectual world and the unity of its potency as well.

In accordance with conception of transdisciplinarity-4 the conditions, which had promoted the formation of the Universe must have logical and geometrical embodiment [23].
Thus it is reasonable to suppose that formation of the matter Universe was preceded by specific process of purposeful structural saturation of the medium of the Intellectual world. Each step of such saturation represents a unique phenomenon (Plato and Plotinus call them the One, Intellectual-Reason and Soul). Each one of these phenomena shows unique geometry. Each unique geometrical construction represents reflection of potency in some specific conditions. Exactly a combination of these unique geometrical constructions represents a combination of conditions required for appearance of the Universe. A sequence and number of steps of structural saturation condition on a number and sequence of elements in “transdisciplinary unit of order”, which is shown as a consequence, during a research of phenomena, objects and processes of the matter Universe and will have spatial, temporal and informational aspects. In other words, the matter Universe corresponds to the process of formations of the conditions required for its existence.

In order to show that transdisciplinary dialectics develops basically dialectics of Plotinus, let us focus on the following statement of the philosopher himself:

“... Before it there is That which must transcend the noblest of the things of Being: there must be a prior to this Principle which aiming towards unity is yet not unity but a thing in unity's likeness. From this highest it is not sundered; it too is self-present: so close to the unity, it cannot be articulated: and yet it is a principle which in some measure has dared secession.

That awesome Prior, The Unity, is not a being, for so its unity would be vested in something else: strictly no name is apt to it, but since name it we must there is a certain rough fitness in designating it as unity with the understanding that it is not the unity of some other thing.

Thus it eludes our knowledge, so that the nearer approach to it is through its offspring, Being: we know it as cause of existence to Intellectual-Principle, as fount of all that is best, as the efficacy which, self-perduring and undiminishing, generates all beings and is not to be counted among these its derivatives, to all of which it must be prior.
This we can but name The Unity, indicating it to each other by a designation that points to the concept of its partlessness while we are in reality striving to bring our own minds to unity. We are not to think of such unity and partlessness as belong to point or monad; the veritable unity is the source of all such quantity which could not exist unless first there existed Being and Being's Prior: we are not, then, to think in the order of point and monad but to use these- in their rejection of magnitude and partition- as symbols for the higher concept” [24].

Despite all the reference for the One and taking into consideration a plenty of statements, suggestions and terms, which describe impossibility of a direct cognition of the One, it is impossible to deny that the One, which involves the Intelligence and Soul, is considered to be a fragment of One Ordered Medium itself as well. Consequently, the One may and must represent some initial or first-born monolith. It must represent the “monolith” of the medium, but not “space”, since there was no space before appearance of the Intellectual world [25]. Transdisciplinary interpretation of a definition of “information” as form of development of potency of OOM enables to take this monolith for realization of the initial state of potency not only of the Intellectual world but also of the whole OOM. System as an order conditions on the unity and inseparability of the first-born monolith, as form of existence of potency of the One with initial state of its potency.

It should be noticed that existence of potency with its initial state (with its form and content) does not mean exact “being or non-being” of the One or the way it should be. It means just predisposition of the One to its own Being, which can be contemplated by Intellectual-Reason as many on some certain conditions. This predisposition makes the One be as it was described earlier: “First is no being but precedent to all Being; it cannot be a being, for a being has what we may call the shape of its reality but The Unity is without shape, even shape Intellectual. Generative of all, The Unity is none of all; neither thing nor quantity nor quality nor intellect nor soul; not in motion, not at rest, not in place, not in time: it is the self-defined, unique in form or, better, formless, existing before Form was, or Movement or Rest, all of which are attachments of Being and make Being the manifold it is” [26].
If one cannot think of the One, the essence of power, which the One presents, is hidden from cognition and understanding as well. But if one cannot think of the One and its potency, one may and must suggest the initial (prior) state of potency, which conditions on predisposition of the One to its own being. This predisposition, expressed substantially, should be interpreted as a simplex. It is important to note that the Simplex is not different from the One (or was engendered from the One). Thus the One and the simplex cannot be correlated with each other (or to be opposite to each other). Meanwhile the absence of this correlation makes the simplex be infinite.

Consequently, the main tasks of transdisciplinary philosophy of the Intellectual world are:

- Firstly, to reanimate the logical and geometrical models of the first-born monolith of the Intellectual world, which contains – a simplex (the One), Intellectual-Principle and space of Soul.

- Secondly, to give a meaning to the role and purpose of every single logical and geometrical model during formation of space of the matter Universe.

- Thirdly, to find a correlation of logical and geometrical models of the first-born monolith of the Intellectual world to the world in comparison with real structure of space of the matter Universe and its material objects, that means to combine the knowledge of the Intellectual world (knowledge of unconditioned [absolute] type) with scientific knowledge about the sensible world (the material Universe).

**Spatial carcass and elementary space of the Intellectual world (geometry of the simplex)**

“I reckoned among the number of the most certain truths those I clearly conceived relating to figures, numbers, and other matters that pertain to arithmetic and geometry, and in general to the pure mathematics”

Descartes

Let us try to design a “definite figure” on the indefinite and infinite background, background of the simplex using methodology of research of the Intellectual world, suggested by
Plotinus and combining the “act of understanding (cognition)” with the “act of denomination”. Firstly, recall that the One must have attributes, which provide realization into its own being. These attributes give one meaning and exist all together. One of these attributes is initial (prior) state of potency of the One. According to transdisciplinary-4, initial spate of potency of the One represents “the simplest” geometry. Contemplation of this geometry enables to find an “understandable” part from “nothing” up to initial state of potency. Let us call this geometry as “geometry of the simplex”. Absence of such geometry, which is basically considered to be one of the Firsts of being of the One would never allow to give it a meaning of “we know it as cause of existence to Intellectual-Principle, as fount of all that is best, as the efficacy which, self-perduring and undiminishing, generates all beings and is not to be counted among these its derivatives, to all of which it must be prior.” [28].

Contemplation of geometry of the simplex enables to detect “self-baring nature of the One” mainly as some plane levels. Such plane levels represent the medium of initial monolith of the outer world. These plane levels come from “nowhere” and don’t go “anywhere”. Essentially they neither come nor go. They are similar to some crystal metal grid being this metal itself. Thus plane levels cannot be as many, since they do not differ from the One, limited quantitatively or qualitatively. They are not even plane levels in its full meaning, but “plane vectors” – contributors of initial state of potency of the One in the first-born monolith of the Intellectual world.

System, as an order, which conditions on unity of all the plane levels, requires their practically, but never chaotically, useful allocation in the first-born monolith. Afterwards, exactly this picture would guarantee creation of the one. Consequently, geometry of the One represents the initial grade of structure saturation of the first-born monolith of the Intellectual world.

Plane levels allocate especially angularly, as the system requires. As a result the simplex in the first-born monolith resembles some interiorly ordered volume Bulk Ribbings, which appear in crossover points of the plane levels, form a specified geometrical (crystal) construction of the first-born monolith – its carcass. This carcass represents a strict framework (figure 1). In the long run the construction endows One Ordered Medium with stability, which enables
medium of the Intellectual world and later, space of the material Universe, to resist any effects, caused by following transformation of their own potency.

**Figure 1. Carcass of the first-born monolith of the Intellectual world**

The construction of the carcass contains a periodic element, nominated as a “basic fragment of the carcass of the MNW. This fragment is similar to a geometrical figure – octahedron. It should be underlined that this basic fragment of the carcass of the MNW is just
conditionally identified (mentally) in the construction since its ribbings are considered to be continuation of ribbings of neighboring octahedrons. However it does not impede every single conditional octahedron to represent the interior medium of the first-born monolith, the medium which is found to be within every octahedron. Since this medium is identified with plane levels, which are considered to be detection of initial state of potency of the One, it can be called as the potential medium of the first-born monolith.

![Diagram](image_url)

**Figure 2 Basic fragment of carcass of the first-born monolith of the Intellectual world**

In turn the potential medium of the MNW has to show its own initial state of potency. Since geometry of the simplex must be the simplest, it must be shown with plane levels and ribbings, which form octahedrons. Allocation of inner octahedrons corresponds to a definite order (system). In accordance with this order, one can observe a figure of eight octahedrons put all one inside of another one within a basic fragment of carcass of the MNW. Sizes of each following octahedron are consequently diminished (figure 2). Illustratively each octahedron is
rainbow colored. A base of each following inner octahedron is twisted by 45° to the base of a previous one. Only such an allocation of every inner octahedron enables to implement two important issues: to keep a geometrical form of potential medium of the first-born monolith – geometry of initial state of potency of the One and to maintain stability of initial carcass.

It should be noticed that eight inner octahedrons, which serve for determination of state of potential medium, are predisposed to some individuality. This individuality lies is based on the fact that their ribbings do not continue ribbings of neighbor octahedrons. Despite existence of connection between inner octahedrons of their common base with an external the ninth octahedron within plane levels of their common base, the figure of eight inner octahedron plays important role in formation of predisposition of being of the One towards many.

Conditional division of potential medium with octahedrons of spatial carcass demands a certain determination of those plane levels, which will have a stable state. This circumstance will contribute significantly during formation of spaces as a form of existence of potency. Figure 3 demonstrates these globular plane levels within the basic fragment of carcass of MNW. Such plane levels were called as “spheres of stable state of potential medium”. Each sphere represents a globe put into a base of a correspondent octahedron. The ninth sphere, which belongs to the external (ninth) octahedron is considered to be a plane level of stable state of initial state of potency of the One. Consequently, no inner elements of potential medium of the basic fragment of carcass of the MNW can get beyond the ninth sphere. In turn, the ninth sphere, put into an octahedron of a definite color (figure 3b) predetermines a stable state of potential medium in its octahedron.

It should be noted that the smallest sphere, put into a base of the first inner (purple) octahedron terminates the process of so-called “quantization” of potential medium of the first-born monolith. It determines the size of so-called the primal element of potential medium. Allocation of exactly this primal element gives it the status of being – the general primal element (figure 3b).
All the crossings of octahedrons between each other within plane levels of their common base in the basic fragment of carcass of the MNW are so-called “points of transmission of stable potency of potential medium” (fig. 4b). Size of the general first-born element as the size of minimal sphere of stable state determines sizes of these points. According to it, the base of the first inner (purple) octahedron does not need points of transmission of stable state of potential medium. In this case, the general first-born element is found to be an “Absolute Principle”. In this case it should have no potency at all.
Displacement of bases in the figure of eight octahedrons by 45° urges a spiral deformation of potential medium of the basic fragment of carcass of the MNW (figure 5). This deformation insignificantly differs at the tops of the octahedrons (figure 5.a) and at a plane level of the common base of octahedrons (figure 5.a).

**Figure 4 Points of transmission of initial state of potency**

Displacement of bases in the figure of eight octahedrons by 45° urges a spiral deformation of potential medium of the basic fragment of carcass of the MNW (figure 5). This deformation insignificantly differs at the tops of the octahedrons (figure 5.a) and at a plane level of the common base of octahedrons (figure 5.a).
Figure 5 Spirals of basic fragment of the MNW
Vector of spirals in the octahedrons is centripetal (is focused on centre). Vector of spirals in octahedrons of the common base is centrifugal. Such a contraposition of direction of vectors will be of significant importance later during stabilization of speed of rotation spiral galaxies (figure 5.1.).
Recall that according to transdisciplinarity-4, information is a form of existence of potency. In our case there are four pictures of this form.

- the basic fragment of carcass of the MNW, which consists of an external (the ninth) octahedron and a figure of eight octahedrons;

- spheres of stable state of potential medium;

- spiral deformation within plane levels of the general base of octahedrons;

- the general primal element.

Each described form justifies some general and important information concerning geometry of the simplex. So, for example, a basic fragment of carcass of the MBW represents initial state of potency of the One. Thus it represents classic “nothing”. In turn, the general primal element informs of absence of initial state of potency. In this case the General primal element represents classic “nothing” or classic the One (according to Plato). According to all above, this “nothing” is found to be independent sphere of stable state and conditioned by own (purple (initial)) octahedron. As the antique philosophers believe, such “nothing” must present at everything that exists afterwards (was engendered). But “nothing” cannot be bigger than it is. That’s why a plane level of the general base of octahedrons of the basic fragment of the MNW has to be shown as an ordered combination of “nothing”. By analogy with the general primal element these “nothings” were denominated as the primal elements (figure 6).

Sizes of the primal elements are naturally limited by sized of spheres of the neighbor primal elements. The primal elements fill just plane levels of the general base of eight inner octahedrons. A plane level of external (the ninth) octahedron is a carrier of information of the already formed “prior state of potency” of the One.

After allocation within plane levels of the general base of octahedrons the primal elements represent a so-called “fabric of the primal elements” (figure 7). Since basic fragments of carcass of the MNW are identical, the fabric of the primal elements represents the one formation within the first-born monolith of the Intellectual world (figure 8).
Layers of the first-elements in the plane levels of the general base of octahedrons

Arbitrary fragment of the first-born monolith of the Intellectual world

Figure 7 Fabric of the first elements
It can be summarized as follows:

“Plotinus” methodology of cognition of the One led to determination that a simplicity of the “simplest geometry of the First” is conditioned “logically”. Potency, as a creating power, appears later together with a form of its existence – space. Probably, the geometry of the first-born monolith, which represents a form of initial state of potency is called by Plotinus as the Supreme. Initial state of potency cannot actually create anything, since there is no Intellectual-Principle so that to contemplate the Supreme and Soul, which forms space and so turns initial
state of potency into potency itself (creative power). Thus the One demonstrates a stage of Being of the simplex at the stage of initial state of potency and does not differ from the One. It just demonstrates a predisposition of the One to being. Meanwhile this demonstration starts from “nothing” – the absence of initial state of potency and, directly, from initial state of potency of “something”, incarnated in basic fragments of carcass of the MNW. In this case the simplex (Supreme) serves as the One. This is how Plotinus describes it:

“... Neither can it have will to anything; it is a Beyond-Good, not even to itself a good but to such beings only as may be of quality to have part with it. Nor has it Intellection; that would comport diversity: nor Movement; it is prior to Movement as to Intellection.

To what could its Intellection be directed? To itself? But that would imply a previous ignorance; it would be dependent upon that Intellection in order to knowledge of itself; but it is the self-sufficing. Yet this absence of self-knowing does not comport ignorance; ignorance is of something outside- a knower ignorant of a knowable- but in the Solitary there is neither knowing nor anything unknown. Unity, self-present, it has no need of self-intellection: indeed this "self-presence" were better left out, the more surely to preserve the unity; we must eliminate all knowing and all association, all intellection whether internal or external. It is not to be thought of as having but as being Intellection; Intellection does not itself perform the intellective act but is the cause of the act in something else, and cause is not to be identified with caused: most assuredly the cause of all is not a thing within that all.

This Principle is not, therefore, to be identified with the good of which it is the source; it is good in the unique mode of being The Good above all that is good”[29].

It is important to note that from the moment of formation of the simplex, any geometrical incarnation is connected with transformation of prior state of potency. It will be found within One Ordered Medium and used as basic fundamentals or real elements of geometrical constructions of spaces, objects and phenomena. So, for example, the figure of eight
octahedrons, boundaries of which represents a structure of prior state of potency, predetermined existence of eight “colored” elements in transdisciplinary “unit of order”.

**Fabric of structural elements and fabric of functional elements of the basic fragment of carcass of the Intellectual world (geometry of the Prior)**

The second from the One is the Intellectual-Principle. This is how Plotinus describes the Intellectual-Principle in the Intellectual world:

“... But the Intellectual-Principle is all and therefore its entire content is simultaneously present in that identity: this is pure being in eternal actuality; nowhere is there any future, for every then is a now; nor is there any past, for nothing there has ever ceased to be; everything has taken its stand for ever, an identity well pleased, we might say, to be as it is; and everything, in that entire content, is Intellectual-Principle and Authentic Existence; and the total of all is Intellectual-Principle entire and Being entire. Intellectual-Principle by its intellective act establishes Being, which in turn, as the object of intellection, becomes the cause of intellection and of existence to the Intellectual-Principle- though, of course, there is another cause of intellection which is also a cause to Being, both rising in a source distinct from either.

Now while these two are coalescents, having their existence in common, and are never apart, still the unity they form is two-sided; there is Intellectual-Principle as against Being, the intellectual agent as against the object of intellection; we consider the intellective act and we have the Intellectual-Principle; we think of the object of that act and we have Being.

Such difference there must be if there is to be any intellection; but similarly there must also be identity [since, in perfect knowing, subject and object are identical.]

Thus the Primals [the first "Categories"] are seen to be: Intellectual-Principle; Existence; Difference; Identity: we must include also Motion and Rest: Motion provides for the intellectual act, Rest preserves identity as Difference gives at once a Knower and a Known, for, failing this, all is one, and silent.
So too the objects of intellection [the ideal content of the Divine Mind] - identical in virtue of the self-concentration of the principle which is their common ground - must still be distinct each from another; this distinction constitutes Difference.

The Intellectual Cosmos thus a manifold, Number and Quantity arise: Quality is the specific character of each of these ideas which stand as the principles from which all else derives” [30].

What does this hardly understandable statement of Plotinus mean? It can only mean that potential plane level of the basic fragment of carcass of the MNW must involve two more geometries – of the thought and the thinker (according to Plotinus), besides all the given primal elements, octahedrons, spirals and spheres of stable state. Or to say it easier – geometry of something that can describe state of potency of the One, not only as a creative power, but some creative hidden power based on the Reason-Principle.

A modern mono-disciplinary researcher may barely understand a phrase “the thought and the thinker, represent a duality, but have a single beginning”. Contemplation of geometry, which flows from the order of sequence of the Simplex, may help to solve this question.

Recall that the material of the primal elements within a plane level of common base of octahedrons allocated practically rather useful (figure 6). A peculiarity of such an allocation of the primal elements is the fact that a classic “nothing” is presented only by the general primal element. The general primal element presents in plane levels of common base of octahedrons of each basic fragment of carcass of the MNW. Hereby a specified cell is being formed. There is “nothing” at base of this cell, which does not have any potency. This cell is framed by some force construction of the basic fragment of carcass of the MNW, which represents initial state of potency of the One. It is fundamentally important, since one cannot state that the general primal element is “nothing” without existence of prior state of potency. In turn, without “nothing”, one cannot state that the basic fragment of carcass of the MNW is initial state of potency of the One.

Initial state of potency is geometrically incoherent in the first-born monolith of the Intellectual world and classic “nothing” is allocated in the centre of each conditionally determined basic fragment of the MNW. Some contradiction is likely to appear: incoherent
initial state of potency of the One and coherent “nothing”. However, figures 6, 7, 8, demonstrate that classic “nothing”, as the general primal element, is found to be among other primal elements – in the fabric of the primal elements. This fabric is also incoherent in the first-born monolith. Sizes of the primal elements, as sixes of the primal elements are determined by a ration of sizes of an external (the ninth) octahedron and an inner (the first) octahedron in the plane level of common base of octahedrons of the basic fragment of carcass of the MNW. Consequently, the primal elements are examples of classic “nothing”. Exact declarations of Plotinus were as follows: “Thus The One is in truth beyond all statement: any affirmation is of a thing; but the all-transcending, resting above even the most august divine Mind, possesses alone of all true being, and is not a thing among things; we can give it no name because that would imply predication” [31]. But in this case the similarity is external, but not an inner one. If all the primal elements served as classic “nothing”, initial state of potency of the One would be deprived of an opportunity to incarnate in “the thought and thinker”, (according to Plotinus). In other words, existence of initial state of potency does not guarantee a transition into being. This transition must represent a geometrical incarnation in medium of the first-born monolith so that the existing could appear. The essence of this transition is to make initial state of potency be purposefully creative or have the “Reason-Principle”. To simplify we can say, that prior state of potency must fundamentally have a geometrically formed predisposition to “reason and be reasoned (think and be thought), and serve as something that later might be called as “quantity and quality”. This attribute of such a reasonable state of potency will condition on a fact, that later any form of energy in its natural state, will obtain a predisposition to do certain actions and certain work. And this geometrical incarnation is probably mentioned as to the thought and a thinker. Let us find out, how it appeared. All the primal elements in plane levels of common base of octahedrons must have “identity and difference”. In other words, one part of the first-born elements must have an attributive of indifference. The other part – an attribute of coherence. Indifferent and coherent primal elements allocate in the plane level of common base of octahedrons in accordance with a certain order (figure 9). In this case, each coherent first-born element is surrounded by indifferent first-born elements and vice-versa. The general primal element, as classic “nothing” belongs naturally to indifferent primal elements. This inequilibrium state of the first-born elements in plane levels of common bade of octahedrons conditions on existence of geometry of the thought and a thinker. Let us see what this geometry show.
There are (9x9 = 81) indifferent and (8x8 = 64) coherent first-born elements within a plane level of common base of octahedrons of each basic fragment of carcass of MNW. A need to feel a connection and cohesion with neighbor primal elements provokes actualization of coherent primal elements. This actualization is common for all the coherent primal elements. Every coherent primal element is in a cohesion (is found to be interacting) with a neighbor indifferent primal elements. The number of indifferent primal elements exceeds the number of coherent primal elements. Thus in our case, actualization of coherent primal elements is canceled by insurgency of indifferent primal elements. However, the results of actualization do not disappear with it. This result is recorded within a plane level of common base of octahedrons as a picture.

Figure 9 Scheme of allocation of indifferent and coherent first elements
of a new fabric of medium of the first-born monolith. Geometry of this fabric is as following: the result of interaction of one primal element with another one cannot exceed the sizes of the coherent primal element, since there is no response from the indifferent primal element. However the result of momentous interaction of the coherent primal element with four indifferent primal elements already differs. This result represents an initial structural element, which consists of four own elements (figure 9b). The sizes of this structural element exceed sizes of the primal element by a factor of two.

Since actualization of the coherent primal elements is momentous, the initial structural elements are shown momentous in the whole plane level of common base of octahedrons of the basic fragment of carcass of MNW. It should be noted that initial structural elements, which are shown around the coherent primal element and interact with each other, hereby increase the results of initial interaction. Structural elements of different shape are also shown in the basic fragment of carcass of MNW with fabric of structural elements (figure 10). Probably, Plotinus mentioned exactly this material:

“... But, while we provide for individualization, we must carefully preserve mutual presence. Even in the case of our circle we need not think of separated radii; all may be taken as forming one surface: where there is no distinction even upon the one surface but all is power and reality undifferentiated, all the beings may be thought of as centers uniting at one central centre: we ignore the radial lines and think of their terminals at that centre, where they are at one. Restore the radii; once more we have lines, each touching a generating centre of its own, but that centre remains coincident with the one first centre; the centers all unite in that first center and yet remain what they were, so that they are as many as are the lines to which they serve as terminals; the centers themselves appear as numerous as the lines starting from gem and yet all those centers constitute a unity.

Thus we may liken the Intellectual Beings in their diversity to many centers coinciding with the one centre and themselves at one in it but appearing multiple on account of the radial lines- lines which do not generate the centers but merely lead to them. The radii, thus, afford a serviceable illustration for the mode of contact by which the Intellectual Unity manifests itself as multiple and multipresent” [32].
It can be suggested that fabric of structural elements represents Plotinus’s “reasoned (thought)” – or something that contains the results of the interaction. But what, in this case, does serve as “a reasoner (thinker)”.

When contemplating geometry of structural elements (figure 10) it can be noticed that its consequently increasing plane levels try to divide “from the middle” the results of interaction of the primal elements.

![Figure 10 Model of fabric of structural first-elements](image-url)
Such a division represents four basic plane levels of material of structural elements. There is a centrifugal vector (of the general primal element), called as a “vector of motion”, which had been formed in material of structural elements in order to implement a complete formation. One may assume that such a division and a “vector of motion” are able to opposite inwardly themselves to the unity of the first-born monolith. In this case there is a need of a “reasoner”, or in other words – a fabric of medium of the first-born monolith, predetermined for unification with results of interaction of indifferent and coherent primal elements in plane levels of common base of octahedrons. Meanwhile this “unification is not for a unification”. It predetermines justification of an ability of initial state of potency to use purposefully its different capacity: firstly, during formation of a certain phenomenon, object or process as they must be at every stage of development; secondly, while fulfilling some certain functions in accordance with a capacity of initial state of potency. Thus this new fabric was denominated as material of functional fragments (figure 11).

So that fabric of structural elements could be of inner importance, material of functional fragments is being formed in it, directing “towards the sphere” of the general primal element. Why does it happen exactly towards the sphere of the general primal element? Because the main function is determined by the biggest fragment of initial state of potency. And this fragment, as being initial state of potency, corresponds to an external (the ninth) octahedron of the basic fragment of carcass of the MNW. As result, there is a centripetal vector (to the general primal element), denominated as a “vector of reasoning”, which is being formed within material of functional fragments.

Illustratively every functional fragment of material (a globe) is marked with a certain rainbow color, corresponding to the transdisciplinary unit of order. The initial purple globe unites a plane level, equal to the initial structural element. But in this case this plane level unites every fragment of initial structural elements of every basic structural element of fabric (figure 9b). It is rather reasonable that a radius of the red and all the following functional fragment are increased by a magnitude of interaction of the indifferent and coherent primal elements, directed to the points of transition of stable state of potential medium (figure 4). Appearance of functional fragments in such a sequence can be really comparable with the process of reasoning and its geometrically incarnated results (fabric of functional fragments) – with the reasoned.
If one combines fabric of functional fragments (figure 11) with spheres of stable state of potential medium of the basic fragment of carcass of MNW (figure 3), they may make sure that the appeared coincidence came from the initial purple globe up to the yellow globe included at every colored globe, representing stabilization of so-called *quantitative* sphere in material of

**Figure 11 Model of fabric of functional fragments**
structural elements and functional fragments. Qualitative sphere – from the green to the purple globe- stabilizes only as being a component of common fabric of structural elements and functional fragments. Probably, these peculiarities condition on a possibility of phenomena, objects and processes to change the outer, as for example, - to grow and develop, keeping the inner (consisting of the same chemical agents).

Geometrically, fabric of functional fragments represents the one combination of globes, allocated one into another one. Every globe does not exist separately or without material of structural elements. “The intellectual object is itself an activity, not a mere potentiality; it is not lifeless; nor are the life and intellection brought into it as into something naturally devoid of them, some stone or other dead matter; no, the intellectual object is essentially existent, the primal reality. As an active force, the first activity, it must be, also itself, the noblest intellection, intellection possessing real being since it is entirely true; and such an intellection, primal and primally existent, can be no other than the primal principle of Intellection: for that primal principle is no potentiality and cannot be an agent distinct from its act and thus, once more, possessing its essential being as a mere potentiality. As an act- and one whose very being is an act- it must be indistinguishably identical with its act: but Being and the Intellectual object are also identical with that act; therefore the Intellectual-Principle, its exercise of intellection and the object of intellection all are identical. Given its intellection identical with intellectual object and the object identical with the Principle itself, it cannot but have self-knowledge: its intellection operates by the intellectual act which is itself upon the intellectual object which similarly is itself. It possesses self-knowing, thus, on every count; the act is itself; and the object seen in that act- self, is itself” [33].

In turn, materials of structural elements and functional fragments do not exist without fabric of the primal elements and the basic fragment of carcass of the MNW (figure 12).
It can be summarized as follows:

Fabric of functional fragments terminates the process of contemplation of practically useful structural saturation of the monolith of the Intellectual world. It engendered – (one tandem, duplicity of geometry of “nothing” and initial state of potency of the One) and the simplex (one tandem, duplicity of geometry of fabric of structural elements and functional fragments). This is how Plotinus described it:

“... Given this immobility in the Supreme, it can neither have yielded assent nor uttered decree nor stirred in any way towards the existence of a secondary [Intelligence].
It must be a circumradiation - produced from the Supreme but from the Supreme unfaltering - and may be compared to the brilliant light encircling the sun and ceaselessly generated from that unchanging substance.

Again, all that is fully achieved engenders: therefore the eternally achieved engenders eternally an eternal being. At the same time, the offspring is always minor: what then are we to think of the All-Perfect but that it can produce nothing less than the very greatest that is later than itself. The greatest, later than the divine unity, must be the Divine Mind, and it must be the second of all existence, for it is that which sees The One on which alone it leans while the First has no need whatever of it. The offspring of the prior to Divine Mind can be no other than that Mind itself and thus is the loftiest being in the universe, all else following upon it- the soul, for example, being an utterance and act of the Intellectual-Principle as that is an utterance and act of The One. But in soul the utterance is obscured, for soul is an image and must look to its own original: that Principle, on the contrary, looks to the First without mediation- thus becoming what it is- and has that vision not as from a distance but as the immediate next with nothing intervening, close to the One as Soul to it.

The offspring must seek and love the begetter; and especially so when begetter and begotten are alone in their sphere; when, in addition, the begetter is the highest good, the offspring [inevitably seeking its Good] is attached by a bond of sheer necessity, separated only in being distinct” [34].

In conclusion it should be noted that geometry of the simplex and the prior was examined within just one basic fragment of carcass of the MNW. But the monolith of the Intellectual world is considered to be a combination of infinite plurality of conditionally marked basic fragments of the MNW. Consequently, every single fragment has the same geometry.

It should be also noted that elements and fragments of geometry of the simplex and the prior have real own boundaries. They are found to be certain globular, octahedronic and spherical spheres of the first-born monolith of the Intellectual world. All this geometry spreads within the body of the first-born monolith of the Intellectual world and detects initial state of
potency of the One. In this case, the simplex and the prior serve as one of the true Firsts. We can contemplate prior state of potency of the One or the true First Principle whatever sphere of the first-born monolith we contemplate. According to Plotinus, there is no space in the First at this stage. Space is a form of existence of potency. Meanwhile the Firsts represent prior state of potency and therefore, it cannot be just space. Consequently, if the monolith of the Intellectual world has potency, it will immediately have space or, in other words, - space of Soul.

**Soul as one of the three Principles of the Intellectual world**

"Whether, in fact, some or all of those causes which we term physical may not be due to the geometrical construction of our space" William Clifford

Recall that antique philosophers called as Soul everything that moves itself independently, that means that the Soul was a principle of self-motion and motion. Purposefulness of this motion urged the antique thinkers to admit the “Reason-Principle” of this motion, denominated as Intellectual-Principle. In order to base the way the Intellectual-Principle created the Soul and why does it represent a principle of self-motion and purposefulness of motion Plotinus says:

“... Consider our universe. There is none before it and therefore it is not, itself, in a universe or in any place- what place was there before the universe came to be?- its linked members form and occupy the whole. But Soul is not in the universe, on the contrary the universe is in the Soul; bodily substance is not a place to the Soul; Soul is contained in Intellectual-Principle and is the container of body. The Intellectual-Principle in turn is contained in something else; but that prior principle has nothing in which to be: the First is therefore in nothing, and, therefore, nowhere. But all the rest must be somewhere; and where but in the First?

This can mean only that the First is neither remote from things nor directly within them; there is nothing containing it; it contains all. It is The Good to the universe if only in this way, that towards it all things have their being, all dependent upon it, each in its mode,
so that thing rises above thing in goodness according to its fuller possession of authentic being”[35].

Then Plotinus continues:

“... We allow this to be true for the Intellectual-Principle to which we have allotted [the multiplicity of] self-knowing; but for the first principle of all, never. Before the manifold, there must be The One, that from which the manifold rises: in all numerical series, the unit is the first.

But- we will be answered- for number, well and good, since the suite makes a compound; but in the real beings why must there be a unit from which the multiplicity of entities shall proceed?

Because [failing such a unity] the multiplicity would consist of disjointed items, each starting at its own distinct place and moving accidentally to serve to a total.

But, they will tell us, the Activities in question do proceed from a unity, from the Intellectual-Principle, a simplex.

By that they admit the existence of a simplex prior to the Activities; and they make the Activities perdurable and class them as substantial existences [hypostases]; but as Hypostases they will be distinct from their source, which will remain simplex; while its product will in its own nature be manifold and dependent upon it.

Now if these activities arise from some unexplained first activity in that principle, then it too contains the manifold: if, on the contrary, they are the very earliest activities and the source and cause of any multiple product and the means by which that Principle is able, before any activity occurs, to remain self-centred, then they are allocated to the product of which they are the cause; for this principle is one thing, the activities going forth from it are another, since it is not, itself, in act. If this be not so, the first act cannot be the Intellectual-Principle: the One does not provide for the existence of an Intellectual-Principle which thereupon appears; that provision would be something [an Hypostasis]
intervening between the One and the Intellectual-Principle, its offspring. There could, in fact, be no such providing in The One, for it was never incomplete; and such provision could name nothing that ought to be provided. It cannot be thought to possess only some part of its content, and not the whole; nor did anything exist to which it could turn in desire. Clearly anything that comes into being after it, arises without shaking to its permanence in its own habit. It is essential to the existence of any new entity that the First remain in self-gathered repose throughout: otherwise, it moved before there was motion and had intellectual act before any intellection unless, indeed, that first act [as motionless and without intelligence] was incomplete, nothing more than a tendency. And what can we imagine it lights upon to become the object of such a tendency?

The only reasonable explanation of act flowing from it lies in the analogy of light from a sun. The entire intellectual order may be figured as a kind of light with the One in repose at its summit as its King: but this manifestation is not cast out from it: we may think, rather, of the One as a light before the light, an eternal irradiation resting upon the Intellectual Realm; this, not identical with its source, is yet not severed from it nor of so remote a nature as to be less than Real-Being; it is no blind thing, but is seeing and knowing, the primal knower.

The One, as transcending Intellect, transcends knowing: above all need, it is above the need of the knowing which pertains solely to the Secondary Nature. Knowing is a unitary thing, but defined: the first is One, but undefined: a defined One would not be the One-absolute: the absolute is prior to the definite...

Self-intellection- which is the truest- implies the entire perception of a total self formed from a variety converging into an integral; but the Transcendent knows neither separation of part nor any such enquiry; if its intellectual act were directed upon something outside, then, the Transcendent would be deficient and the intellection faulty...

Consciousness, as the very word indicates, is a conperception, an act exercised upon a manifold: and even intellection, earlier [nearer to the divine] though it is, implies that the agent turns back upon itself, upon a manifold, then. If that agent says no more than "I
am a being," it speaks [by the implied dualism] as a discoverer of the extern; and rightly so, for being is a manifold; when it faces towards the unmanifold and says, "I am that being," it misses both itself and the being [since the simplex cannot be thus divided into knower and known]: if it is [to utter] truth it cannot indicate by "being" something like a stone; in the one phrase multiplicity is asserted; for the being thus affirmed - [even] the veritable, as distinguished from such a mere container of some trace of being as ought not to be called a being since it stands merely as image to archetype- even this must possess multiplicity” [36].

In order to confirm Plotinus’s contemplation of the Intellectual world and describe appearance of space of Soul in the Intellectual-Principle, let us continue to contemplate processes, implemented in geometry of the Prior.

Unitary action of the First can be compared with fluctuation. But in this case this fluctuation is not “an accidental deviation of parameters of a multitude of particles from average magnitudes”. In fabric of the primal elements such a deviation form average magnitude of “nothing” are purposefully caused by the coherent primal elements. Saying illustratively, fluctuation of the coherent primal elements base on their predetermination – to confirm conservation of unity of the One, or, (according to Plotinus), - to play role of “sun with its derived light”. Being the First, the first-born monolith of the Intellectual world can do just “single action of the First”. This action is presented by actualization of the coherent primal elements, which is suppressed by the indifferent primal elements. However this action is never unnoticed. It causes actualization of the Intellectual-Principle (the reasoned and the reasoner). This actualization results in geometry of the simplex and the prior condition on existence of space of the “Soul as one of the First Principles (or hypostases)”.

Since Soul presents in medium of the first-born monolith, it should have some attributes in order to be distinguishable. These attributes are: its own medium (space or protospace), different from the medium of the first-born monolith; its own inner unity; unity with the First. And as the most important, - its space must be such that later it would have “un breaking unity, however, does not prevent it shaping that multiple by its own unity and being present to the

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entirety of the multiple, bringing it to pattern not by acting part upon part but by presence entire to the object entire” [37].

In order to contemplate space of Soul it is necessary to remind that medium of the first-born monolith of the Intellectual world represents a composition of elements and fragments of geometry of the simplex and the prior, which have real own boundaries. Single action of the First must engage their globular and spherical spheres, which have been classified within basic fragments of carcass of the MNW. Or, according to Plotinus, the Intellectual-Principle must “give a meaning (to reason the action) to an action” means to detect a “principle of self-motion”, with which Soul is associated as one of three Principles. A principle of self-motion converts globular and spherical spheres illustratively into volumetrical resonators. A resonator is a device or system that exhibits resonance or resonant behavior, that is, it naturally oscillates at some frequencies. Examples of resonators are a tuning fork, a string, a membrane, air pocket. In other words, each globular and spherical area of basic fragment of carcass of the MNW has a new geometry in the form of some standing undulatory complexes.

Geometry of the simplex and the prior represents a transition from “nothing” to prior state of potency of the One. Thus a single action of the First Principle and a principle of self-motion within each basic fragment of carcass of the MNW transforms “initial state of potency” of the One into “initial unit of potency” of the One (the first energy or protoenergy, - according to Plotinus). Figuratively saying, a principle of self-motion makes the potential area of the basic fragment of carcass of the MNW “sound monotonously”. Such a sound converts the potential areas of the basic fragments of carcass of the MNW from resonators into oscillators. Oscillator is a device designed for autonomous harmonic oscillations. For example, a pendulum, a spring with a load, an oscillatory circuit may be called as oscillators. Getting into central zones of its own standing wave these oscillators form a stable, non-radiating outside system – protodoubler [38]. Hereby the results of the “single action of the first principle” cannot go beyond the boundaries of the first-born monolith of the Intellectual world and all the described further, including the matter Universe will be found within the First. New standing waves within a protodoubler close “into themselves”, forming some special areas of unique space. These areas are distinguishable within the own medium not only with boundaries of all the spherical fragments, which belong to the basic fragment of the MNW, but with parameters their own wave
complexes, closed into themselves. This new space represents a prototype of future space of the Universe – an invisible one (non-radiating outside). To say figuratively, if we had an opportunity to observe a formation of this space in reality, we could possibly see a momentous unexcepted disappearance of all the well-observed geometrical construction of the simplex and the prior at the moment of a single action of the first principle. We would face emptiness, with an obvious existence of potency to creation.

Space of Soul, as one of the three First Principles, represents essentially a combination and composition of a number of wave complexes, which occur based on geometry of the prior. Thus specific areas of space of Soul will contain wave complexes of elements of the structural fabric and fragments of the functional fabric. Within Soul’s space these elements and fragments form, correspondingly, areas of structural space and areas of functional space or, in other words, - structural space and functional space of the Soul. Since these spaces do not exist separately, the Soul’s space, as one of the three First Principles, was called in transdisciplinary philosophy of the Intellectual world as additive space (addition (lat) – composition by adding).

In parallel with resonant-oscilating process, observed in geometry of the prior (the Intellectual-Principle), a single action of the First is also reflected in geometry of the simplex. So, for example, the area of the basic fragment of carcass of the MNW, which involves octahedrons and spirals, creates in the new space inner tension, characterized by significantly complicated spiral distortion. Probably, such a distortion serves as a force construction of space of Soul and provides its resilience as the basic fragments of carcass of the MNW previously did.

It can be summarized as follows.

A single action of the First and a principle of self-motion within medium of the first-born monolith terminates formation of certain conditions focused on existence of the One. Existence (realization) of the One consists of:

- firstly, to demonstrate transformation of the “initial state of potency” of each basic fragment of carcass of the MNW into the “initial spate of potency” of the One;
secondly, giving a meaning to the “initial unit of potency” in each basic fragment of carcass of the MNW;

thirdly, reflection of the “initial units of potency of the One” its additive space (space of the Souls as one of the three First Principles);

- fourthly, exchange of carcass of the first-born monolith of the Intellectual world with force construction within the Soul’s space, as one of the three First Principles.

**Presingular stage of formation of additive space of the Soul**

Since the medium of the monolith transformed into a prototype of frequency-wave space, formation of the Soul’s space enters a terminating, the most responsible stage. One can discover some imprinting of geometry of the simplex (according to Plotinus) in a form of etalons and then – programs of the One in the additive space of Soul, which at the moment represents infinite and unlimited combination of initial units of potency of the One. Etalons and programs are united by casual connections. This connection does not only set hierarchy of programs, but conditions on dependence from the invariable true geometry of the prior. Let us examine a sequence of the connection:

So “body” of the Universe (cosmic objects from rishons to metagalaxies) cannot form without a corresponding program. This program cannot form without a program of formation of *areas of real space* of the Universe. In turn formation of areas of real space of the Universe cannot occur without *real programs of development*. Real programs cannot form without etalon programs. Absence of etalon programs could lead to opposition of real programs to each other in different areas of cosmic space, for example, in different galaxies. In turn etalon programs cannot form without etalons of programs. It is obvious, since an idea of the programs does not belong directly to these programs and this additive space. It belongs to geometry of the prior.

This means that additive space of Soul, as one of the three First Principles, must represent the following sequence:

- combination of etalons of programs;
- combination of etalon programs;
- combination of real programs;
- combination of programs of formation of real areas of space.
- And all these etalons and programs must later be reflected in elements of the “body” of the matter Universe—space and cosmic objects.

With a basis on all mentioned above, one may admit that additive space of Soul is space of etalons and programs of formation and development of the existing One. Thus, literally, space of Soul represents a process of a sequent reflection of all the etalons and programs. All these etalons and programs must be embodied within each area of additive space. Then every single area of space of Soul will predetermine attributes of each similar area if space of the Universe, from its minimal areas to the maximum possible area and also—the nature of processes, which occur within. Since the stage of imprinting of geometry of the prior in a form of etalons and programs of the presenting One within additive space of Soul occurs before appearance of singularity, it was denominated as the “presingular stage”.

**The first series of directed bursts**

Let us conceive the essence of sequent development of additive space of Soul. A composition of etalons and etalon programs are considered to be the first to develop. This development represents a combination of so-called even and odd directed processes in a form of bursts (directed bursts). At a glance it should be noted that one cycle of bursts includes four series of directed bursts (according to logically necessary steps of development of etalon state of maximally dynamic independence within an etalon program of formation of a stable potential state) (figure 13). Every series includes also eight (according to attributes in transdisciplinary unit of order). Consequently, every cycle of bursts can be shaped in full and sizes of basic fragments of space and quantity of its inner fragments can be calculated mathematically.
The first directed burst

Recall that the development of Soul can be observed within the infinite first-born monolith of the Intellectual world. Its infinity (external openness) is capable of depriving additive space of Soul from any sense. Thus the Intellectual-Principle with its centrifugal and centripetal vectors demonstrate a “force of the principle” in order to avoid. This demonstration can be schematically presented in a form of bursting process of formation of an infinite number of wave complexes, which form out of globular areas of structural and functional fabric of the prior (figure 14a). This process has a form of bursts due to a requirement of keeping the attributes if proto-additive areas of different radius of every wave complex, which will provide mutual repulsion. So-called bursting process was denominated as the first (even) directed burst. It was called as directed because of an effect of “centripetal vector of motion” (mental).

After the first directed burst the additive space takes a shape of full chaos, which should be interpreted as initial state of order of etalon of state of maximal dynamic independence.
The second directed burst

Maximal tension of repulsion, caused during the first directed burst, has no opportunities to get “out of boundaries” of the first-born monolith of the Intellectual world. This circumstance forms a “crisis of state of maximal dynamic independence” (crisis of chaos), which can be
eliminated by the “centrifugal vector of reasoning” of a thinker. Effected by the “centrifugal vector of reasoning” of a thinker, the tension “runs down” within the monolith of the second (even) directed burst (figure 14b).

The second directed burst results in the following.

Firstly, the sizes marked *logically boundaries* and last area of the *infinite* first-born monolith of the Intellectual world, which involved a full combination of initial units of potency of the One. As a consequence, the additive space of Soul acquired its maximum possible sizes and maximal magnitude of potency of the One.

Secondly, the second directed burst urged the additive space to obtain a conditional form and structure, equal to structural fabric and fragments of functional fabric. Consequently, the additive space of Soul will have the one plane level of realization of programs, due to construction of structural space. Moreover it will also have a globular form so that to further realization due to functional space. Probably, the Universe makes purposefully usage of these peculiarities of additive space of the Soul for formation of its shape and the whole space along with forms and spaces of cosmic object as well.

Thirdly, functional space led to a conditional separation of additive space of Soul to a quantitative area (from the purple initial to yellow included) and qualitative area (from the green to purple included). The separation allows to dedicate an area (the quantitative area), which will further have the following directed bursts, affirming this dedication as the main principle of an order of realization of the bursts.

Fourthly, this additive area of the Soul of maximal size took state of the *highest order*, which should be considered as *etalon of maximal static order*.

**The third directed burst**

The third and forth directed bursts are reflected within the additive space of Soul based on the previous two etalons.
The third directed burst is reflected in the quantitative area of the second directed burst (figure 15a). The area of the third directed burst “foams up” with proto-additive areas, as etalon of state of maximal dynamic independence and its centripetal vector require. Meanwhile the proto-additive areas have to reflect additive space of the Soul in the forth directed burst.
Since this odd directed burst is reflected within ordered medium of the additive space of the second directed burst, the third directed burst should be considered as etalon of state of optimal dynamic independence.

The forth directed burst

As etalon of state of maximal static order with a centrifugal distribution vector requires, the inner tension between a variety of proto-additive areas of different radius, which had been caused after the third directed burst, runs down “to inside” by means of the forth directed burst (figure 15b).

Each basic area of structural space of the forth directed burst represents the whole additive space, which creates the construction of the second directed burst. The result of the forth burst will have the status of etalon of state of optimal static order.

The fifth directed burst

The fifth directed burst is reflected in the quantitative area of the forth directed burst (figure 16a). Since the fifth directed burst is reflected within ordered medium of the forth directed burst, it was given a status of etalon of state of dynamic predisposition. The area of the burst is presented rather diminished to show the area of the sixth directed burst in full.

The sixth directed burst

Etalons of even (the second and forth) bursts require some alterations in scenario of formation of additive space in the sixth directed burst. Hereby, each basic area of additive space of the sixth directed space recreates a construction of the second and then – the forth directed bursts during the process of self-formation (figure 16b). The figure demonstrates the result of the sixth directed burst in full. A scenario of detection of this sixth directed burst gives it the status of etalon of state of structural predisposition. This underlines an overall distribution of optimal static order.
Figure 16 The first cycle of burst.  
The scheme of the fifth (a) and sixth (b) directed bursts
The seventh and the eighth directed bursts

The seventh and the eighth directed bursts terminate the cycle of reflection of etalons of programs. This circumstance allows to take them for the first area of stable state of general structuring of additive space of Soul, which consists of four cycles of directed bursts.

The seventh directed burst is also reflected in a quantitative area, as all the previous odd bursts did. In this case it can be discovered in a quantitative area if the sixth directed burst (figure 17a). Reflection of the seventh directed burst in ordered medium of the sixth directed burst gave its space the status of etalon of stable dynamic state.

In turn, the demand of etalons of the even (2, 4, 5) directed bursts is expressed in the space of the seventh directed burst (and therefore, in each basic element of its structure space) structuring of additive space of the eight directed burst (figure 17b). The results of structuring represent a certain reproduction of construction of structural fabric of the simplex. This circumstance allowed to give the space of the eighth directed burst a status of etalon of stable structural state. Hereby, additive space of the Soul, as one of free first principles, was structured out from the simplest (initial) construction (which an element of structural fabric has) to a full construction of structural fabric (figure 10) along with formation of eight directed bursts of the first series.

It can be summarized as follows.

Additive space of Soul, as one of the three First Principles, produces self-structuring not “outside”, but “inside”. The process of structuring has certain progression, which leads to a ripple effect of increasing of quantity and quick decrease of sizes of spatial fragments of additive space of Soul. Although when the case in question is related to sizes close to infinity, such a phrase as “quick decrease of sizes of spatial fragments” is rather conditional.
Figure 17 The first cycle of bursts.
The scheme of the seventh (a) and eighth (b) directed bursts
The second series of directed bursts

The first series of directed bursts provided reflection of the area of additive space, which included a combination of basic states. The most important is that all the following series of directed bursts will have initially to reflect this combination of etalons and then, finally, to reflect this own further structuring of additive space of Soul. Moreover it is not the only condition. From this moment every single minimal fragment of structural space of eight directed burst will serve as an independent additive space. Thus the results of odd and even directed bursts of the second and following series of bursts will be more complicated in formation. Thus, for example, every minimal area of structural space of the Soul of eight directed burst will initially experience reflection of etalons of program (similar to the results of the first series of bursts). Then every single minimal area of structural space of the eighth directed burst of the second series of bursts will experience further reflection of structure of area of additive space.

Directed bursts of the second series will in full and sequentially reflect the result of corresponding directed bursts of the first series. But the fact that they are present along with etalons of programs on their level, each burst of the second series acquires status of etalon of program of acquisition of state of additive space of the Soul. Each burst has the status of etalon of program of achievement of corresponding state of additive space of Soul. So, for example,

- the first one is the area of additive space, which has the status of “etalon of program of achievement of state of maximum dynamic independence”;
- the second one is the area, which has the status of “etalon of program of achievement of state of optimal static order”;
- the third one is the area, which has the status of “etalon of program of achievement of state of optimal dynamic independence”;
- the forth is the area, which has the status of “etalon of program of achievement of state of optimal static order”;
- the fifth is the area, which has the status of “etalon of program of achievement of state of dynamic predisposition”;
- the sixth is the area, which has the status of “etalon of program of achievement of state of structural predisposition”;
- the seventh is the area, which has the status of “etalon of program of achievement of stable dynamic state”;
- the eight is the area, which has the status of “etalon of program of achievement of stable structural state”.

**The third series of directed bursts**

Additive space in the area of the third series of directed bursts will be much more complicated in formation. At the beginning, a construction of etalons of basic states of additive space of the Soul (the first series of directed bursts) will be reflected in every single minimal area of structural space. Then a construction of programs of achievement of etalons (the second series of directed bursts) will be reflected in every minimal area of structural space of the eight directed burst in the area of the third series of directed bursts. Afterwards there will be further reflection of structure of area of additive space.

Directed bursts of the first two series had the status of *etalons of basic states* and *etalons of program of their achievement*. Thus the results of the third series of directed bursts enjoy the status of *etalon of program of formation of basic state of additive space of Soul and its predisposition*.

A sequence of the third series of directed bursts and their denominations are the following:

- the first reflected is the area of additive space, which has the status of “*etalon of a program of formation of state of maximal functional predisposition*”;
- the second reflected is the area, which has the status of “*etalon of a program of formation of state of maximal structural predisposition*”;  
- the third reflected is the area, which has the status of “*etalon of a program of formation of state of optimal functional predisposition*”;  
- the forth reflected is the area, which has the status of “*etalon of a program of formation of state of optimal structural predisposition*”;
- the fifth reflected is the area, which has the status of “etalon of a program of formation of state of functional predisposition”;

- the sixth is the area, which has the status of “etalon of a program of formation of structural predisposition”;

- the seventh is the area, which has the status of “etalon of a program of formation of stable dynamic state”; 

- the eight is the area, which has the status of “etalon of a program of formation of stable potential state”.

The forth series of directed bursts

Additive space in the area of the forth series of directed bursts will be the most complicate in formation. At the beginning, a construction of etalons of basic states of additive space of Soul (the first series of directed bursts) will be reflected in each minimal area of structural space, based on the results of the third series of bursts. Then a construction of etalons of programs of achievement of the basic states of additive space of Soul (the second series of directed bursts) will be reflected in each minimal area of structural space of the eight directed burst in the area of the forth series of directed bursts. A reproduction of etalons of programs of formation of basic states of additive space of Soul (the third series of directed bursts) will complete preparations to the forth series of directed bursts. Afterwards, each minimal area of structural space of the last directed burst of the third series of directed bursts will continue further reflection of structure of additive area of Soul’s space.

The results of the forth series of directed bursts will have the status of etalon of programs of formation of basic states of additive space of Soul and their specificity.

- the first in the forth series of directed bursts is reflected the area of additive space, which has the status of “etalon of a program of formation of state of maximal functional specificity”;

- the second – the area, which has the status of “etalon of a program of formation of state of maximal structural organization”;
- the forth – is the area, which has the status of “etalon of a program of formation of state of optimal structural organization”;
- the fifth is the area, which has the status of “etalon of a program of formation of state of formation of state of optimal structural organization”;
- the sixth is the area, which has the status of “etalon of a program of formation of state of structural organization”;
- the seventh is the area, which has the status of “etalon of a program of formation of stable dynamic state”;
- the eighth is the area, which has the status of “etalon of a program of formation of stable potential state”.

It can be summarized as it follows.

Reflection of directed bursts is similar to reciprocating motions. Figuratively speaking, these motions convert additive space (space of the Soul) into an enormous “loom”, which reflects its own “lacy” fabric of this space. Each level of the fabric of additive space will have a corresponding reference system of dimension of practically useful areas; its “carrying” wave and frequency characteristics.

In such a form, additive space of the Soul has unity and tend to a sequent reflection of geometry of the simplex in its construction. Moreover it becomes Soul as one of the three First Principles (the One, Intellectual-Principle and Soul).

When Plotinus was reasoning the essence of Soul he said:

“... In that order no such paring off is possible- nor, if it [soul] were, could there be any falling short. Where limitation is unthinkable, what fear can there be of absence at any point? Nowhere can that principle fail which is the unfailing, the everlasting, the undwindling; suppose it in flux and it must at some time flow to its end; since it is not in flux- and, besides [as the All], it has nowhere to flow to- it lies spread over the universe; in fact it is the universe” [39].
The declaration of Plotinus has sense. It should be noted that contemplation of the Intellectual world and certain exposition of all the understandable did not confuse Plotinus. “Some confusion” was caused after exposition of the process of transition of Soul as one of the three First Principles into the sensible world (the Universe). Probably, the confusion is connected with insignificantly convincing attempt of Plotinus to bring God into these “three First Principles”.

Plotinus also said:

“... Not that God has any need of His derivatives: He ignores all that produced realm, never necessary to Him, and remains identically what He was before He brought it into being. So too, had the secondary never existed, He would have been unconcerned, exactly as He would not have grudged existence to any other universe that might spring into being from Him, were any such possible; of course no other such could be since there is nothing that has not existence once the All exists.

But God never was the All; that would make Him dependent upon the universe: transcending all, He was able at once to make all things and to leave them to their own being, He above” [40].

Then Plotinus tries to develop his conception of God. However he does not it according to dialectics of the One, contemplating it as Plotinus used to do, but according to Plato, who used to contrive hypotheses:

“... Consider the universe: we are agreed that its existence and its nature come to it from beyond itself; are we, now, to imagine that its maker first thought it out in detail- the earth, and its necessary situation in the middle; water and, again, its position as lying upon the earth; all the other elements and objects up to the sky in due place and order; living beings with their appropriate forms as we know them, their inner organs and their outer limbs- and that having thus appointed every item beforehand, he then set about the execution?
Such designing was not even possible; how could the plan for a universe come to one that had never looked outward? Nor could he work on material gathered from elsewhere as our craftsmen do, using hands and tools; feet and hands are of the later order.

One way, only, remains: all things must exist in something else; of that prior—since there is no obstacle, all being continuous within the realm of reality—there has suddenly appeared a sign, an image, whether given forth directly or through the ministry of soul or of some phase of soul, matters nothing for the moment: thus the entire aggregate of existence springs from the divine world, in greater beauty There because There unmingled but mingled here” [41].

Recall that Plotinus used also to state as it follows:

“... The offspring of the prior to Divine Mind can be no other than that Mind itself and thus is the loftiest being in the universe, all else following upon it—the soul, for example, being an utterance and act of the Intellectual-Principle as that is an utterance and act of The One. But in soul the utterance is obscured, for soul is an image and must look to its own original: that Principle, on the contrary, looks to the First without mediation—thus becoming what it is—and has that vision not as from a distance but as the immediate next with nothing intervening, close to the One as Soul to it.

The offspring must seek and love the begetter; and especially so when begetter and begotten are alone in their sphere; when, in addition, the begetter is the highest good, the offspring [inevitably seeking its Good] is attached by a bond of sheer necessity, separated only in being distinct” [42].

Consequently, according to Plotinus, God cannot be in “the direct vicinity with something. and he is not indifferent to the “material world”. In turn, Soul as one of the three First Principles cannot “touch things” and also “construct the Universe” on many reasons. Firstly, space of the Universe must be within these three Firsts, but not have a claim on one of them. Secondly, according to some present conceptions, space of the matter Universe is prone to inflation (increasing of the sizes, similar to short pastry), and this is in contradiction with a condition of invariability of space of Soul. Thirdly, space of the Universe resides in time, thus it
is “involved in process of changes”. Fourthly, there are vast areas without matter in space of the Universe, what is not common for the Soul as the basis of life. Probably, that is why Plotinus, as if unintentionally, mentioned several different definitions of the Soul: Soul as one of three first principles; the world-forming Soul; and the world Soul. But Plotinus does not present so obvious justifications of these definitions, as he did for the One and Intellectual-Principle. Therefore it is different to say at present, if Plotinus mentioned one Soul or spoke about two or three Souls. Or there are much more souls in the Intellectual world. Or there is just one Soul, rather a complicate one? So does it happen if you manage suddenly to change the dialectics!

At the present point we can only state that the cycle of directed bursts, described above and which consists of four series, represented Soul as one of the three First Principles. However if “the case in question is just difference of the Firsts, but not their separation: “a number of Souls will certainly depend on structure (organization) of the Intellectual-Principle “from which it originates and in whose space it resides”. It was said above that the Intellectual-Principle is characterized by binary ability to think and to be thought (reasoned), reflected in structural and functional fabric. Consequently, one may suggest that Soul as a derivative from the Intellectual-Principle will be also characterized by these binary abilities. It can be reflected in the “Soul as a derivative from the Intelligence” by two souls: the World-Soul and the World-engendering Soul.

The World-Soul

Recall that Soul, as one of the Firsts represents additive space, appeared from structural and functional spaces of it. As the status of the First requires, the state of certain areas of this space serves as a combination of etalons of programs. But etalons of programs are not actually etalon programs. Figuratively speaking, the area of additive space of the Soul learn to be a space (developing themselves into etalons and etalon programs) in the first cycle of four series of directed bursts without real geometric boundaries. Therefore space of the Soul as one of three first principles must have additive space, which will reflect etalon programs followed by etalons of programs. Logically exactly this space should be denominated as the World-Soul. Thus one may admit that the last series of directed bursts does not terminate the process of bursting.

Reflection of the World-Soul represents the second cycle of four series of directed bursts. Directed bursts are similar to four series of directed bursts, which present within additive space
of the Soul as one of the Principles. But the only difference is that the results of even and odd bursts of each series will not be considered as *etalons and etalon programs*, but a *combination of etalon programs* of formation of basic states of additive state of the World Soul.

Reflection of the World-Soul repeats peculiarities of the reflection of Soul as one of the Firsts. The first series of directed bursts is reflected in each minimal area of structural space of the eighth directed burst of the forth series of the first cycle.

At the beginning each four series will be reflected in each similar area with eight directed bursts in every single one of the first cycle. Afterwards, there will be the bursting process of the forth series of directed bursts which in each minimal area of structural space. They will continue reflection of space of the World-Soul.

The second series of directed bursts of each minimal area of the eighth burst of the first series will initially repeat directed bursts which are reflected in the first series (including the bursts of the first cycle). Then it will produce its own eight directed bursts.

The third and forth directed bursts will repeat the order, which urged reflections of the previous series of directed bursts. At the beginning all the bursts, which had been observed in the previous series of the bursts will be reflected in each minimal area of structural space of the eighth directed burst. Then its directed bursts will be reflected as well.

**The World-engendering Soul**

In comparison with the World-Soul, which reflects the etalons and etalon programs of formation of basic states of its additive space, the World-engendering Soul must logically reflect the combination of real programs of formation of basic states of the Soul’s space.

The second series of directed bursts in each minimal area of structural space of the eighth burst of the first series will initially reflect directed bursts of the first series. Then it will reflect its own eight directed bursts.
The order of the third and forth series of reflection of directed bursts will not change. Initially they will consequently reflect all the bursts, which had appeared previously. Then it will reflect its own directed bursts.

**Additive space of the Soul**

Three cycles of directed bursts terminated reflection of structure of additive space of the souls, which directly belong to space of the Intellectual world – to three basic Principles. As conditions require, the Firsts must be invariable. As Plotinus said they “must not be involved into a flow of changes”. Consequently, if one admits that space of the Universe could embody in any of these additive spaces of Soul, the requirement will be violated.

So what does happen to the sensible world then?

So-called *transitory additive spaces* are used for transition of the Firsts into the sensible world. The first one is an additive space called as the Soul of the Universe or just the Soul.

Space of the Souls is reflected naturally in space of the World-engendering Soul. Reflection of the Soul is equal to reflection of the previous additive spaces of Soul. Thus the Soul is reflected by means of the forth cycle of directed bursts. This means that each minimal area of structural space of the eighth directed burst of the forth series of the third cycle will reflect four series of directed bursts of the first, second and the third cycles. Then additive space of the Soul will directly reflected in each minimal area of structural space of the eighth directed burst of the forth series. In comparison with the previous spaces of Soul, its directed bursts are not considered to be programs, but an order of formation of area, which have specific state.

The second series of directed bursts will initially reflect directed bursts in each minimal area of structural space of the eighth burst of the first series. Then its eight directed bursts will be reflected.

Before the appearance of the third and forth series of bursts, minimal structural areas of the eighth burst will reflect all the previous bursts. Then its eight bursts will be reflected. A number of interpenetrating areas of the Souls is rather imposing! The magnitude and sizes of the spatial fabric, which they form, is of great importance for the material Universe. Namely, the
sizes of additive space of the Soul, which covers the area of its eighth directed burst of the forth series, represent a maximal area, which space of the material Universe is able to have.

**Additive space of Body of the sensible world**

If we follow the ancient philosophers, we will find out that the second of two transitory additive spaces is additive space of *Body of the material world of sense*. Actually, up to this moment, the case in question was a formation of additive spaces of the Souls, which represented etalons, etalon programs and, finally, an order of formation of areas of spaces of the Universe. But how then the matter of the Universe with its cosmic objects could be formed? Why do this matter and cosmic objects have similar attributes during the whole existence of the Universe? The answer lies in examination of additive space of Body of the sensible world.

The construction of additive space of Body of the sensible world continues the known cycle of directed bursts. As previously, the first series of directed bursts will be reflected *only after* reflection of four series of directed bursts of the first, second, third and forth cycles in each minimal area of structural space of the eighth directed burst of the forth series of the forth cycle. Afterwards, each minimal area of structural space of the eighth directed burst of the forth series will directly reflect additive space of Body of the sensible world.

Recall that the second, third and forth series of directed bursts will initially reflect directed bursts, which had occurred previously in each minimal area of structural space of the eighth burst. And then own eight directed bursts will be reflected. The last numerical result of reflection of additive space of Body of the sensible world is not just hard to calculate, but hard to understand!

In comparison with previous spaces, the results of directed bursts of additive space of Body of the sensible world determine the order of formation of matter of the Universe. It should be noted that Body of the sensible world is limited on one hand with a maximal area of matter Universe and, on other hand, with an area, where elementary particles and photons are formed. Consequently, one may assume that the sizes of a minimal area of structural space of the eighth directed burst of the forth series of the fifth cycle is equal to sizes of potential area of basic fragment of carcass of the MNW. This circumstance allows to admit that quantity of minimal
areas of structural space of the eighth directed burst of the forth series of the fifth cycle is equal to general quantity of units of initial potency of the One. In other words, it represents maximal potency of matter of the Universe. According to the condition that structural and functional fabric of basic fragments of carcass of the MNW represent reflection of initial unit of potency of the One, one may suggest that this quantity should provide all the elementary particles, necessary for formation of all the protons, electrons and photons, which participate in formation of the Universe, its matter and energy. One cannot help exclaiming: “Got has all the atoms in the universe accounted for.”

These circumstances allow also to state that an area of the eighth directed burst of the forth series of the fifth cycle represents the area of singularity (singularity – is the initial area of the Universe) in additive space of Body of the sensible world. Consequently, as minimal area of structural space of the eighth directed burst of the forth series of the fifth cycle were equal to sizes of the potential area of basic fragment of carcass of the MNW, the bursting reflection of structure of additive space was logically terminated. Reflection of the Intellectual world was terminated as well.

It can be summarized as it follows:

According to the ancient philosophers, the One, Intellectual-Principle and Soul were essential in the Intellectual (noetic) world. They declared that Soul and Intellectual-Principle were not just subjectively human, but objectively cosmic. Such a denomination of the Firsts was caused by a circumstance that the sensible world was obviously demonstrating the Reason-Principle and certain self-motion.

Moreover, such specific denominations of the Firsts are reasonable only in the case when the Intellectual world is described with transdisciplinary linguistic formulas. Linguistic formulas include: practically useful hypothesis, based on dialectics of Plato and practically useful statements, based on dialectics of Plotinus.

In addition to dialectics of Plotinus, transdisciplinary philosophy of the Intellectual world used logical and geometrical models of the One, Intellectual-Principle and Soul. Thus, their transdisciplinary analogies were implemented along with their traditional denominations. So, the
One was denominated as the One-simplex accompanied by a corresponding logical and geometrical model. The Intellectual-Principle, along with its corresponding logical and geometrical model was denominated as the One-prior. The One-simplex and the Intellectual-Principle (the prior) compounded the first-born monolith of the Intellectual world. Finally, Soul, along with its corresponding model, was denominated as the One of many. Exactly Soul includes the results of reflection of principles of motion and thinking of the “single motion of the First”.

It should be noted that contemplation of geometry of the simplex and the prior allowed to understand how did Soul as one of the Firsts managed to reflect the simplex and the prior; how could the sensible world get etalons, etalon programs and real programs of own formation and development by means of the World-Soul and the World-engendering Soul; How was the additive space of the Soul formed and, finally, how did the Soul manage to form additive space of Body of the sensible world, which has programs of formation and development of matter.

It was of great importance to show with the usage of transdisciplinary logical and geometrical models how the Intellectual world predetermined appearance of the sensible world. This predetermination was implemented by two spaces: additive space of the Soul and additive space of Body of the sensible world. Fanciful at first sight denominations of these additive spaces callow in fact to explain how does the matter in general and in each particle reflects the essence of the Intellectual world (the Reason-Principle) and self-motion, which is determined by certain purposefulness and synergy).

However, transdisciplinary philosophy of the Intellectual world could hardly be logically completed if we did not know at least some general points of transition of the Intellectual world into the sensible world, the world of many.

One Living Soul and cosmic singularity

Everything that belongs to the Intellectual world can not be directly involved into matter processing, which is subject to alteration. Consequently, additive space of the Body of the sensible world can only indirectly participate in appearance of the material Universe. And this
indirect participation is expressed in a momentous creation of all the space of the matter Universe. How is it possible?

It is overall accepted that the Universe, the origin of everything, started to form out of singularity (and it is still forming). In times of Plotinus there was a violent reaction to the point of view, which considered that some obviously ordered process could exist out of some program space “because [failing such a unity] the multiplicity would consist of disjointed items, each starting at its own distinct place and moving accidentally to serve to a total” [43]. According to transdisciplinary philosophy of the Intellectual world, space of the Universe must present its own spaces. These are – additive space of One Living Soul and numerous additive spaces of Living Souls. Actually, numerous spaces of Living Souls represent many of the One. However this is not a goal of Living Souls to be one of many. The goal is to affirm the “unity of the One” by their existence and nature of development.

Additive space of the One Living Souls is presented by structural and functional spaces. Structural space of the One Living Soul, corresponding to the maximal area of the material Universe, represents a construction of structural fabric of additive space of the Body of the sensory world. This means that a plane level of realization of potency of the One in space of the One Living Soul is presented by fabric of structural space, which has various concentrations of elements of different radiuses. Their maximal numerical concentration is observed in area of cosmic singularity. The farther the distance from singularity the less concentration that decreases to the minimal one. And sizes are consequently increased to outer boundaries of structural space of the One Living Soul. Since structural space reflects potency, potency in space of the One Living Soul will also have unequal distribution. This circumstance plays an important role for the formation of conditions of the Big Bang. Numerous additive spaces of Living Souls reflect the general picture of the centrifugal vector, which had really developed during the Big Bang. Due to interaction of numerous Living Souls within areas of different radiuses of structural space of the One Living Soul, they turned into material phenomena, objects and processes.

Functional space of the One Living Soul, which accompanies every element of structural space, has also its own fabric. Thus various concentrations of its fragments of different radiuses
can be observed. Fragments of functional space (color globes) (figure 11) do not only divide space of the One Living Soul conditionally into areas of different functional predisposition, but also – form one functional ensemble. For example, its inner area (the purple globe) bounds the space of cosmic singularity. The centripetal vector (a vector of reasoning) is directed exactly to this area. It opposes to the increasing dispersion of the Living Souls, urging formation of material phenomena, objects and processes.

One may assume that potential medium of structural space of the One Living Soul represents the sought-for dark matter. Meanwhile potential medium of functional space is dark energy of the Universe. Moreover there are darker matter and energy than in the area of cosmological singularity. In this case dark matter and dark energy are of great importance. They do not allow a number of Living Souls to move with uncontrolled acceleration; they determine the areas of the Universe, which create processes of self-organization of matter and energy; they settle a nature and results of the process of self-organization. Thus, one should probably search in these areas so-called “Higgs field”, which explains why fundamental particles have mass.

Moreover, recall, that resilience and stability of space of the One Living Soul will be provided by its spiral deformation, caused by geometry of the Primal. Probably, these deformations condition on rotary self-motion of cosmic objects and their spiral motion in cosmic space.

At present science defines cosmological singularity as one initial area of the Universe with the following magnitudes [44]:

- radius of space - \( r_{\text{max}} \approx 10^{-33} \) cm,
- density of its vacuum space \( \rho_{\Pi} \approx 10^{94} \) g/cm\(^3\),
- moment of time \( t_{\Pi} \approx 3 \times 10^{-43} \) sec,
- energy \( E_{\Pi} \approx 10^{19} \) GeV \( \approx 10^{32} \) K.

To simplify we can say that singularity is a point of indefinitely small radius, indefinitely enormous density and indefinitely high temperature. Scientists can understand it. But we cannot understand it in other figurative words: In order to create the Universe, one had to gather \( 10^{80} \) tons of explosives and squeeze it to the form of a pea and explode all the components at once.
within an accuracy of $10^{43}$ sec. But where and how to gather this matter if there was none in fact before the Big Bang?! \[45\].

A position of transdisciplinary philosophy of the Intellectual world helps to remove this misunderstanding! As it was mentioned above, cosmological singularity cannot represent a “point of disappearing sizes”. Singularity represents a significantly big cosmic area, which bounds the area of the eighth directed burst of the forth series of the fifth cycle, which belong to the additive space of the Body of the sensible world. Moreover, this area, the additive space” is specifically arranged. It’s is bounded by an inner fragment of functional space of the Living Soul (the purple globe). One can observe structural space of singularity within the globe. The space allocates in the equatorial plane level and covers the area of the eighth directed burst of the forth series of the fifth cycle. This is equal to sawing up a ball out of wooden bar. At first sight it is a ball, meanwhile the inner structure is plane! Probably, this information could help to answer the question with sure” – Is our Universe is plane or spherical?”

Every minimal area of structural space of the eighth directed burst of the forth series of the fifth cycle is equal to a size and structure of the minimal potential area of the basic fragment of carcass of the MNW. This circumstance allows to assume that quantity of the minimal area of structural space of the eighth directed burst of the forth series of the fifth cycle is equal to the maximal potency of matter of the Universe. In other words, $10^{80}$ tons of matter in a form of potential state of space of the eighth directed burst of the forth series of the fifth cycle served as a “trigger”, caused naturally by the basic fragments of carcass of the Intellectual world…

From this moment transdisciplinary philosophy of the Intellectual world penetrates into the world of cosmology, astrophysics and quantum physics. The processes, explained by logical and geometrical models have certain physical analogies. Despite that the described processes and their results are significantly self consistent, it is prudent to interpret them within the boundaries of common (transdisciplinary) research projects with the experts of specified and natural sciences. Practical results of such researches should be reasonably given in the book “Transdisciplinary philosophy of the sensible world”. Thus the process of formation of matter and material objects of the Universe should be presented in brief just in order to have a picture of it.
The composition of potential fragments of additive space of the Body of the sensible world together with similar potential fragments of area of the basic fragment of carcass of the MNW led to so-called familiar space, as immediate resonance and oscillation Phenomena. As it was mentioned above, this phenomenon provoked a momentous formation of additive space of the One Living Soul (the maximal area of the matter Universe) (figure 18).

But along with formation of additive space of the One Living Soul, the phenomenon led to a momentous formation of all the elements of structural space of different radiuses of the minimal areas of the eighth directed burst of the forth series of the fifth cycle in the area of singularity. A need of reproduction of frequency parameters of each area led to their mutual repulsion. This repulsion is known as the Big Bang. Consequently, it is more correct to say that the Big Bang initiated formation of matter of the Universe and then – material objects, phenomena and processes, but not the Universe itself. Modern physics suggests that particles of matter are born coupled – a particle and antiparticle. The problem is that if a particle and antiparticle meet afterwards, they will face annihilation – the process of their mutual destruction followed by energy release. However the modern Universe demonstrates existence of particles and no antiparticles. Probably, potential fragments of area of the basic fragments of carcass of
the MNW became a prototype of particles for mathematical methods. After formation of particles they become passive. As a result, we observe particles, but no antiparticles. But as soon as by artificial means we overwhelm the medium of the micro world, as is done in special technical devices, it leads to the appearance of separate potential fragments of the area of base fragments of the carcass of the MNW in the form of an antiparticle. Probably, the process of annihilation represents the consequence of repeated momentous resonance-oscillation event. To say it simply, a particle bursts because of suddenly increased inner energy.

At the first moments of the Big Bang the area of cosmological singularity becomes similar to the first-born monolith of the Intellectual world. But it is the first-born monolith of the sensible world. This monolith represents unity of matter and fields instead of geometry of the simplex and the prior. In this case only increased frequency of wave complexes in some elements against some average frequency in other fragments allows to treat them of as the matter, and decreased frequency – as the field. Essentially, this so-called “monolith principle” will be basis for processes of creation on all levels of being of the Universe, but in a form of a *cloud* of matter of a field.

Basing on this assumption we should note that most of the first living souls will be formed out of elements and fragments of structural and functional spaces, which had appeared during the Big Bang in the area of cosmological singularity, in comparison with the One Living Soul, which develops immediately and in full. We should also assume that these elements and fragments will try to return to their places anyway. Thus as the cloud of them approaches external boundaries of big program area of the One Living Soul, the process of self-organization of elements and particles will present naturally. To say figuratively, the cloud of elements and fragments of structural and functional spaces, which had developed during the Big Bang in area of cosmological singularity will be considered by the One Living Soul as a result of the odd directed burst. Such a result will immediately cause the even directed burst in this area. To say it simple, the elements of structural space, which had appeared during the Big Bang in area of cosmological singularity will be taken back to additive areas by means of this even directed burst. Moreover, the sizes of these additive spaces will correspond to potential area of the basic fragment of carcass of the MNW. This process will end with their allocation into each other, as the structure of the prior and their own memory of their arrangement requires (figure 11). The
described process occurs within the program space of the fifth cycle of directed bursts. This means that it includes all the directed bursts of the previous four cycles, besides its own four series of directed bursts. Probably, the first and stable unit of potency was a formation of rishons (rishon (Hebrew) – the first one). Stability of this particle is based on its accordance with sizes and structure with the minilam potential area of the basic fragment of carcass of the MNW. As the cloud of rishons filled the next smaller area of the One Living Soul, the following even burst actuated. It resulted in formation of quarks. This circumstance justifies the accuracy of basic statements of the superstring theory. According to it, all the elementary particles exist not as points, but spatial fragments (vibrations of tiny supersymmetric strings), similar to a ringlet with dimensions a billion billion times smaller than the radius of the atom [46]. Perhaps, every single ringlet forms around a correspondent sphere of stable state (figure 3). Thus, in reality, these ringlets vibrate constantly, similar to a bicycle tire, flipped upwards.

One should suggest that the area of the fifth cycle of directed bursts is a program area of the micro-world. As soon as a cloud of elementary particles transected the area of the eighth burst of the forth series of the forth cycle, the appeared odd directed cycle led to formation of the first stable unit of matter in the world, known as proton. The elements of structural space of the One Living Soul allocated within to a nucleus and conditioned on certain mass of an atom and its positive charge. The area, which contained all the elements of structural space appeared to be deprived of them. Therefore it has almost no mass, but a construction of functional space, which is characterized by a negative charge, equal to a positive charge of proton. This area is likely to be an electron. All the particles, which serve as nuclear forces and glue, which fix the components of proton will represent the areas of interaction of particular elements of structural and functional spaces between each other.

Many Living Souls represent a form of development of potency of the One. Thus the moment of their development in space of the One Living Soul is equal to the moment of development of time, or, namely, time slice. Therefore, the flow of transformation of matter and energy followed by a number of Living Souls converts, literally, into the flow of time. This flow seems to be incoherent because of constant transformation of energy. But it remains being discrete due to a number of Living Souls, which participate in it. These processes seem likely to proceed simultaneously within the whole Universe, since all these processes occur in the areas of
space of the One Living Soul. Moreover, the attributes of space of the Universe and its matter will be also alike.

Certainly we should pay attention to the following. Factual eternity of proton is conditioned by the special allocation of its composing elements in accordance with construction of stable potential state. Moreover its sizes correspond to the program area of stable potential state. This means that proton can resound with potential medium of the Intellectual world (reflecting it) with its inner construction. Hereby it receives energy for its eternal existence. This existence allows proton to complete the process of transformation of its own matter and energy. Probably, this process proceeds when proton loses its ability to participate in active processes of transformation of matter and energy, as a consequence of complete fulfillment of its functions, determined by its own functional space. As a result a proton transforms into a neutron. Consequently, quantitative and qualitative indicators of the process of transformation of matter in the Universe, directed from a variety of initial souls to the One Living Soul and external boundaries of the maximal area of the matter Universe, depends on initial quantity of protons.

Dispersion of numerous Living Souls (matter and fields) in a sequent increased areas of areas of space of the One Living Soul is constantly affected by the sequent process of even and odd bursts. To simplify we can say that the process of formation of the matter Universe within the additive space of the One living Soul, represents so-called reciprocating motion. This process results in formation of stars, then, galaxies, galactic cluster and etc. in further dispersion of results of the odd directed bursts. Similar process can be observed in life of stars, which make clouds to be their own components while bursting. Hereby this matter has an opportunity to be involved in the process of the even burst and participate in creation and existence of a new cosmic object (objects). Probably, Plotinus mentioned the similar processes: “… But why does not one same soul enter more than one body? Because any second body must approach, if it might; but the first has approached and received and keeps” [47].

**Space of material objects**

In conclusion let us briefly concern material objects. Let us firstly recall that sizes of proton correspond to the program area of stable potential state. This coincidence is shown in its constant charge. One may suggest that cosmic objects, which form out of proton, as stars, for
example, are also the components of space of the One Living Soul and occupy the level, ultimate for basic cycles of directed bursts. Areas of space of this certain level tend to stable potential state. Consequently, the protons gather together and “embed” themselves into additive space of this area. For a long while they can present within the body of a star and show, figuratively speaking, a “unit of potency” of this level of being. Such being of cosmic objects can be called as existence. But what can be called as life then?

There are objects in the Universe, which consist essentially of complicated chemical elements. Humans belong to these objects as well. According to the Intellectual world, the process of formation and development of a man shows that some particular stages of life correspond to the programs, which the One Living Souls and a number of living souls had. For example, creation of a man requires existence of the program space besides the confluence of gametal cells. This space predetermines formation and development of a man specifically out of a fertilized ovule (space of “whatness” according to Aristotle). Transdisciplinarity calls such a program apace as the general informational field (GIF). This space must relate to spaces of many Living Souls in order to follow “whatness”. Logically, this space belongs to space of the One Living Souls and can be corrected by the planet in accordance with the general state, needs and quantity of participants of its functional ensemble. Without this space, a man could not resound with other biological species and, especially, other people, who provide him with energy of spiritual development.

Secondly, development if a man proceeds within the planet’s space. Consequently, the formed additive space of a fertilized ovule must receive a program of formation and development within the planet’s space. Without receiving such a program, human organism would be deprived of an opportunity to resound with the planet’s space and could not receive the energy for further development by means of planetary chemical elements. This program represents a fragment of space of the living soul of the planet. This fragment was denominated as the translator (p).
Figure 19 Construction of spaces of a natural object
Thirdly, a man forms and develops within space of the Universe, besides the planet’s space. Consequently, space of a fertilized ovule must get a program space from the Living Soul of the “close cosmos”, besides the fragment of space of the GIF and the translator (p). In other case, a human organism would be deprived from an opportunity to resound with space of cosmos and could not receive energy through passing cosmic energies and solar light through the body. By analogy with the planetary space, this space was denominated as the translator (p)

As a result, the space of the fertilized ovule looks like a compound additive space, consisting of four program spaces: the space of the translator (p), the space of the translator (p), the space of the GIF, space of the PIF (Proper Informational Field), which essentially consists of a fertilized ovule (figure 19a).Figuratively speaking, a grown-up man consists of the body (PIF), as a combination of chemical elements) and the complicated-organized Living Soul, The Living Soul is determined to organize and provide processes of reflection of the ambient world, while the body – for depiction. Thus the process of cognition of the Intellectual and sensory worlds by a man represents the process of reflection (thoughts and images) of these worlds in a man’s consciousness. However, the results of such cognition must not only lead to stating (description) of phenomena, objects and processes. Content and structure of program spaces suggest that a man should “study the various articles constituting one science”. [48].

Similar reasoning can be also applied to other natural objects, such as planet Earth, for example. In this case magnetosphere of Earth may serve as space of the translator (K) (figure 19b). From the side, faced to Sun, its size can reach 70 000 km. Magnetosphere interacts with solar wind, reflecting it and correcting electromagnetic processes, which occur on the planet.

Space of the translator (p) bounds the area of the upper layers of atmosphere from troposphere and higher, which spreads from 10 to 3000 km. This area is responsible for important processes on the planet, such as absorption of the hard ultraviolet radiation and usage of energy of this absorption for heating of the atmosphere.

Space of the FIF represents troposphere. It is the lower, the best studied, layer of atmosphere. It’s height in polar areas is 8-10 km, in temperate latitudes – 10 -12 km, at the equator – 16-18 km. Troposphere contains more than 80% of all atmospheric air. It is
characterized by heavy turbulence and convection, concentration of water vapor. It forms clouds, atmospheric frontiers, develops cyclones and anticyclones and other process, responsible for weather and climate.

And, finally, space of PIF represents the body (firmament) of the planet.

According to these specifications, naturally fertilized ovules cannot exist without formation of space of its One Living Soul. Exactly potency of this space and its centripetal vector of motion causes directed motion of spermatozoids towards an ovule (or adhesion of particles of matter into an embryo of the planet).

It should be noted that space of the PIF is allocated within One Living Soul of a man, characterized by a shift of axes (figure 20). If all the program spaces of one Living Soul had the same construction and allocation within each other, the body of a man could never express.
Moreover, according to all above, space of the PIF has an opportunity to depict the Intellectual and sensory worlds. It based on the “structure of depiction”, which allows the body to distinguish etalon and real information (state) of the body (figure 20 b). In turn, an ability to distinguish information, comparing it; to make decisions and fulfill the decision, basing on results of comparison of real and etalon information, urged formation of consciousness and sub-consciousness. According to transdisciplinarity-4, a way of conceived existence is called as life. Consequently, objects, able to conceive their existence live. Objects, which do not conceive their existence, just exist. Probably, the objects, which exist along with the objects, which live are of equal importance for one living soul of the Universe. These questions are thoroughly revealed in the other work. (Мокий В.С., 2009).

However, space of the one living soul will experience the resonance-oscillating event before it becomes the body of a man. It will lead to the odd directed burst. This burst results in the bursting process of division of an ovule. Formation of a blastula completes the process. It represents formation of a cell. (figure 21a). Termination of a program of the odd burst initiates activities of the even directed burst. Cells begin to differentiate within the blastula and space of the blastula starts to transform, literally or figuratively speaking. From the one hand, inner space of the blastula releases of differentiated cells. From the other hand- it experience formation and further development of an embryo in its equatorial plane level (the plane level of realization of structural space (figure 21b).

One can also observe activities of the one Living Soul of a man, basing on structure of organs and system of an embryo. Initially, the first odd burst urges appearance and accumulation of a necessary number of differentiated cells. Then, the even burst stimulates transformation of spaces of the odd burst. It results in formation of organs or organism system.

The example of One Living Soul is to show that study of the Intellectual world stops being at present just an object of antique philosophy. Structure of its tree principles, a search of development of these principles within space of the Universe and material objects allow to examine the essence of basic laws of nature and make usage of revealed opportunities for all problems of science and nature.
Figure 21 A blastula and gastrula of a biological object
Conclusion

Usually one takes the Universe for just empty space, consisting of separately standing stars, star clusters, such as galaxies and metagalaxies. Elementary particles, components of matter of the Universe also represent some empty space with insignificant inclusion of matter. But actually this matter itself is an accumulation of oscillation of certain area of the same empty space. These examples lead finally to the following: in general, the Universe represents “some empty space” at any level of its being. However it is difficult to understand, conceive and study “some emptiness”. Moreover, sometimes it is just impossible! There are no monodisciplinary approaches, known for appropriate conception, effective methods and tools for further examination. Thus everything that was discovered by science, is balancing now on insignificant number of cosmological constants. Certainly their magnitudes could not be formed chaotically.

This circumstance justifies a hypothesis, that the Universe is being dissolved in one ordered medium of three principles – the Simplex, the Prior and one and many. Their structure is thoroughly presented in this book. Consequently, the Universe can also be just one ordered medium. Space of the Universe and area of widening of structural matter represent complex organized program spaces. In this case to have a program means to have potency. Potency is a hidden motive power, a motive cause, which urges the Universe to purposeful implementation of the programs and directed development. Consequently, any types of energy in the Universe demonstrate the ability to fulfill only exact work. “Exactness” of the work is conditioned by allocation of material objects within natural functional ensembles. According to this logic, one may assume that the empty space of the Universe presents program spaces of the natural functional ensembles of cosmic objects, such as stars, galaxies, clusters of galaxies. This relative emptiness was caused due to two reasons: “strapping” of matter of the space by “even and odd directed bursts” towards the centers of program areas and formation of stable cosmic objects out of this matter. Therefore, the “emptiness”, which surrounds cosmic objects, reflects just “dark energy”, in reality, -the energy of presenting programs.

Cosmic objects as natural functional objects can be stable only when the speed of interaction of matter and energy does not exceed certain physical parameters. Material objects take these parameters for “speed of light”. However, the cosmic objects themselves compound
one functional ensemble of the Universe. Consequently, there must be interaction between cosmic objects, separated from each other with many light years. Moreover, this interaction must exceed speed of light. Transmitters of this interaction will be certainly found and described. Methodology of transdisciplinarity-4 and transdisciplinary philosophy of the Intellectual world could generously help with it.

Why does need a man the knowledge concerning the Intellectual world? This knowledge allows: to change the basis of the world-view radically; to create harmonic human society, based on the principles of natural functional ensemble; to create technologies for solution of social and economic problems; to find technologies of production of pure and safe energy, communication, information processing; to implement technologies of managing natural and social objects and “communication” with the ambient world. Taking into consideration all above, we may hope that usage of knowledge concerning the Intellectual world will unconditionally lead us to a new stage of development of science and society in general.

P. S. But what about the questions: “Is the Universe the only one?” and “What will be after final expansion of the Universe?”

According to transdisciplinary philosophy of the Intellectual world, the space of the Universe involves in every particle of its matter all the combination of etalons and programs, which the one noemenal world had formed. Other universes would have other principles. The Universe can be just one- the only one. But there can be a lot of worlds in the Universe, at different levels of reality, since every single level is its natural fragment.

In concern of the expansion of the Universe…

If we look for the answer to this question in nature, that growth as a volumetric increase of objects does not go on indefinitely. Cosmic objects, molecules, bodies of plants, animals and humans expand (grow-up) only during some period of time. According to transdisciplinarity-4, such period is called as “quantitative period of growing and development”. This period of growth and expansion in volume is of great importance for the following fulfillment of own functional predisposition of an object. The next “qualitative period of development” is focused on processes of transformation of matter and energy in accordance with this predisposition. According to this
logic, one may assume that the area of structuring matter and energy, denominated as the sensory world, is affected by the expansion. The space of the Universe is not involved in this process, since it fulfills the program functions. This means that if space of the Universe will barely change, there will be immediate destruction of “purposefulness and reason” of the existence of matter and energy. Thus, using the terms of modern science, we may say that the Universe will be “expanding” until it reaches the size, required for fulfillment of its functional predisposition. The usage of transdisciplinary models of the Intellectual world, a sequence and the order of formation of the sensory world gives an opportunity to find and calculate the size of the Universe. Then there will be no expansion. Expanding sensory world will turn into the stationary Universe. The qualitative period of development will start.

But what about existence of the red shift within the spectrum of boundary galaxies, which, according to physics, indicates the expansion with increasing speed? Actually, a classic example of decreasing of tone of a sound is significant. But it is only significant with an automobile that is moving away. Moreover, it is not reasonable to make conclusions in terms of the Universe based on a physical phenomenon, since there is just an observer, who can interpret it subjectively. Meanwhile, it does not relate “purposefulness and reasonability” of existence (evolution) of matter and energy.

There are a lot of examples of decreasing of tone of a sound in the nature, which are not connected with an object moving away. For example, decreasing of tone of a sound is followed by weakening of string tension. Decreasing of tone of a sound can be observed while filling a tank with water or free-flowing material, for example, cereals. These examples are more appropriate in terms of the Universe. Thus, its is more logically to assume, that appearance of the red replacement in the spectrum of boundary galaxies may justify not increasing of the expansion, but, figuratively speaking, - weakening of program saturation of the Universe at these boundary areas. But in accordance with transdisciplinary conception, it is more reasonable to state that the red replacement justifies saturation of volume of the Universe with conclusions of the purposeful process of transformation of cosmic matter and energy. Recall that such a statement corresponds to the meaning of appearance of the sensory world – to prove” the unity of the One”. In this case, weakening of the program saturation of space of the Universe is
consequently transmitting the responsibility for formation of required conclusions to the increasing inner arrangement of the objects themselves.

Purposefulness and “projectivity” of transformation of cosmic matter and energy justifies that consciousness and mind represent global natural phenomena. This means that mankind of every planet not only can, but must interact with nature and human-relative natural systems with creativeness. Such contact will help to widen human world-view and achieve the living and activities, which could urge formation of true conclusions in concern of cense of the ambient world.

But what is going to happen to the stationary developing Universe after it forms all required conclusions and achieves its maximal volume? The Universe will obtain a unique attribute. For an observer within the Universe, it will be “all”, or, according to Aristotle, it will obtain its realized “whatness”. For an observer outside of the Universe, it will represent the general primal element – “nothing”. Or, in other words, it will be the true first – the One.

The general primal element is the central element of the primal. Thus an observer will be in medium of the Intellectual world again, in medium of three first principles. And finally, these principles will form the Living Soul of the Universe and many other Living Souls. Consequently, being of the Universe is a consequence of a principle of “the One is one”. Therefore the Universe is the only one. Moreover, it is always developing – from the area of singularity to the “realized whatness”. This is the principle of the principles, endless cross cap.
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