

Section One

INERT MATTER

Philosophy of the Cosmos for a Discursive “Thinking Through” of the Chronology of the Universe

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In the article, we will consider the scientific “Evolving matter” theory and philosophy of the cosmos as the modern “ideal model” of global sustainable development. The answer will be given to the question: “What is the world as Dasein-the-One?” Philosophy of the cosmos has two goals: (1) To resolve the question “How does agathos come into being?” or “How does a thing’s meaningful-presence-as come about?” (2) To use the obtained results for a specific discourse and a way of life creation. The research subject of philosophy of the cosmos is the account of complexity of the movement of Sein in Da, which includes the source of meaningful presence, or the idea tou agathou. Agathos reveals phronesis, the required moulding force of agathos. Philosophy of the cosmos presents Dasein-the-One as the modern intelligibility of the coming into being, the ways of the coming into being, as well as the connection between the coming into being and what is occurring. Dasein-the-One is a continuous and non-linear complication of the structure of matter; the types of interaction and the environments in which agathos are immanently present. The factors and causes of complication determine the coming into being and what is occurring. They develop the chronology of complication or a certain account of complexity of the movement of Sein in Da. The passing and happening of Dasein-the-One define the experience of Dasein being. The latter forms a specific focus of the coming into being, as well as its energy of the meaningful presence in what is occurring.

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Introduction

The 19th – the beginning of the 21st century was the period of several technological revolutions, which not only established and enriched fundamental meanings of Being with new knowledge, but also brought civilization to new levels of development.¹ In the article, we will consider the scientific “Evolving matter” theory and philosophy of the cosmos as the modern “ideal model” of global sustainable development. The answer will be given to the question: “What is the world as Dasein-the-One?”

Cosmology and anthropology in the 21st century: the search for a single source

In the preface to the book “Cosmos and Soul,” Piama Gaidenko noted with regret, “Cosmology and anthropology are rarely used in combination nowadays.”² This fact has an explanation. In the 19th century, thanks to the research of John Herschel, William Whewell, Charles Darwin, John Dalton, and many others, the scientific methods led to industrial and technical revolutions, and the term “scientist” that was coined during this period began to evoke piety and universal admiration.³ However, the absolutization of scientific knowledge and methods, as well as their demonstrative dissociation from philosophy, already occurred in cultural history. The relationships that we have been observing between scientific and philosophical knowledge in the last two centuries, in general terms, repeated the pre-Platonic period in Antiquity. Plato’s merit lies precisely in unifying the disparate knowledge of arithmetic, geometry, music and astronomy by a united idea and presenting it as a philosophy of number, figure, sound and motions of celestial bodies. Plato formulated the idea of philosophy as a new approach in education. He believed that only the transforming force of authentic knowledge and the new transcendental ideal could restore Athens after the defeat in the Peloponnesian War. Therefore, through the education model proposed by Plato, *the art to build and live in an ideal Republic, created on the pattern of the kalos cosmos, was taught.*⁴

The idea of the human as a “small cosmos” and human-built into the cosmos was traced in the teachings of all key thinkers in Antiquity and the Middle Ages: from Socrates, Plato, and Aristotle to Origen, St. Augustine, Maximus the Confessor, Thomas Aquinas, and others. Each of them considered his duty to trace the dependence from the lower level of reality to the higher one. The human was considered the lower level, and the idea tou agathou was the

¹ Industrial revolution in the 19th century; the Scientific-technical revolution about 1950-1960; Information and telecommunications revolution about 1975-present.

² The title of the book: “Cosmos and Soul: Teachings on the Universe and Man in Antiquity and the Middle Ages (Essays and Translations)” (Cosmos and Soul, 2005: 13).

³ In 1833, William Whewell, a theologian and philosopher first used the term “scientist,” by which he designated philosophers specializing in the detailed study of some phenomena of nature, including physical, mathematical and social realms.

⁴ See (Plato, *Timaeus* 29a).

highest one. Piama Gaidenko noted, “In the books “Timaeus” and “Genesis,” the description of man’s creation is similar in that they were deeply cosmic” (Cosmos and Soul, 2005: 14).

Science without philosophy tends to the continuous fragmentation, to the loss of integrity and common development goals. In the 19th century, the absolutization of *scientific* knowledge led to the fragmentation of modern knowledge, to the loss of an *idea, ideal, and values of development*. There is no connection between the evolution of the Universe and man in modern models of global order. The Big Bang theory does not consider humans as a planetary-scale force, and the theories of anthropogenesis (or, according to the author’s terminology – noogenesis⁵) use the axioms that are not related to the Lambda-CDM model.

In our opinion, the inefficiency of the modern theories and the “ideal” models of global sustainable development, which are being developed in the philosophical school, is explained by the lack of unity within the meaning of the highest idea, ideal and values. For millennia, the unity was based on the idea tou agathou, which, on the one hand, was the theoretical and practical basis of the created theories and models, and on the other hand, was the source of the social system transformation. The idea tou agathou allowed philosophy to perform as a “knowing guide and guardian” among the “genuine public.”⁶

Since then, the idea tou agathou underwent a very thorough change and lost its Platonic meanings.⁷ The basics of philosophy were lost, and philosophy began to generate theories, the axiomatic of which constituted the derivative ideas of agathos. The problem of the intelligibility of the source of meaningful presence was worsened by the contradiction that arose within the philosophical school. For millennia, the search for answers to questions “What is there?” and “What is it (that is, whatever it is that there is) like?” was the task of metaphysics.

Andronicus of Rhodes proposed the term “metaphysics” in the first century BC for ease of Aristotle’s works arrangement. Literally, it meant “something after physics.” Aristotle did not use the term. However, some of his works were actually devoted to the “first philosophy” (ἡ πρώτη φιλοσοφία). In the Middle Ages, the term “metaphysics” was used synonymously with the term “philosophy.” Metaphysics was regarded as the central philosophical doctrine.

In 1730 in his book “Philosophia prima, sive Ontologia” Christian von Wolff used the term “ontology” to specify general metaphysics. The new term derived from Greek “ὄντος” (ontos), translated as “that which is.”⁸ Wolff was a heavyweight philosopher of modern history, and one of the originators of a new understanding of the global world order. He created an ontology to the study of the category of being as initial and determinative. Metaphysics played a secondary role in ontology: *knowledge* of soul, world, and God.

In modern philosophy, the questions about the essence of being have acquired a previously uncharacteristic specificity. What is “a thing insofar as it is in being?” “What is a thing in its being?” “What is the being of a thing?” Evidently, metaphysics is presented in these questions as a subject of ontology, as “onto-logy insofar as the operations of questioning and answering (-logy) all bear ultimately on things (onto-).”⁹

⁵ In the future, we shall use the term noogenesis, since in the author’s perspective it conveys the meaning of human evolution much more accurately. Human evolution is, first of all, the development of the structures and functions of the human brain, as well as its manifestations.

⁶ That is exactly how Heidegger expressed the role of philosophy in a letter to Jaspers. (Safranski, 2005: 298).

⁷ See (Plato, *Republic* 6.505a–6.509c; 6.510a–6.511d; 7.518a–7.518d; 7.532a–7.532c; 7.534c; 10.621c–d; *Timaeus* 29a).

⁸ The first definition of the term “ontology” was given in 1613 in “Lexicon philosophicum: quo tanquam clave philosophiae fores aperiuntur” by Rudolph Goclenius.

⁹ See (Sheehan, 2014: 15).

The confrontation between “metaphysics” and “ontology” is still continuing. Considering the etymology of both terms only exacerbates the problem. On the one hand, the history of the development of the meaning of the term “metaphysics” is loaded with outdated and contradictory statements that are no longer correspond to the original Aristotelian meanings. Moreover, among the original senses, the subject of metaphysics research included not only “being as such” and “the first causes of things,” but “things that do not change.” However, on the other hand, the etymology of the term “ontology” and the understanding of the world as a process contradict each other. The term “ontology” derives from the “study of being,” where the being was literally understood as “the study of what there is.” The modern understanding of being is “*the study of what is occurring.*” Thus, both terms are not “ideal” for conveying modern meanings of the *process philosophy*.

In the present context, we will take Heidegger’s advice and make a “genuine retreat into history,”¹⁰ to eliminate all hardened, abstract, and hiding the truth. Seeking the joint basis of the highest idea, ideal, and values, we will appeal to the origins of the idea of philosophy.

The “Evolving matter” theory: the basic provisions

In the “*Timaeus*” Plato wrote, “as ousía (οὐσία) is to génesis (γένεσις), so is alêtheia (ἀλήθεια) to pístis (πίστις).”¹¹ This phrase proves that Plato created the idea of philosophy based on the axiom of an eternal and unchanging world. The meanings of the noun “ousia” meant more for Plato than the meanings of the noun “genesis.” “Ousia” is the present tense of the verb “εἶμι” (eimi, to be, to exist). This is a real being, which is frozen in place and “takes place.” It is significantly present in a certain order, that is *the kalos cosmos*. It is motionless, unchanging, and timeless.

Plato contrasted ousía with genesis. Genesis is a derivative of the verb “gígnomai” (γίγνομαι, to come into being, to be born, to become). It was opposed to “phthoré” (φθορά), as it was “passing out of existence” and “ceasing to be.” Aristotle entitled one of his treatises “Περὶ Γενέσεως καὶ Φθοράς,” literally “On Coming to Be and Passing Away.”

In modern philosophy, that phrase was used to prove the primacy of being (ousía) and to use the knowledge of the essence of being as defining axiomatics during the derivation of theories and “ideal” models of sustainable development. Ontology is considered as a theoretical basis for the unity of the highest idea, ideal and values.

However, Plato regarded agathos as immanent to the eternal. It was present in ousía. The demiurge, created the kalos cosmos, was also agathos.¹² Therefore, Plato’s agathos is at least a defining component of the primacy (ousía), if not the primacy itself. Plato opposed ousia to genesis, while agathos was immanent both to ousía and to genesis. It was agathos that tied together with the eternal cosmos and the cosmos that has come into being.¹³

We shall underline that Plato considered the idea tou agathou strongly rationally. Plato’s perception of the world was based on the teachings of Pythagoras, whose rationalism compares to the rationalism of modern cosmological models. Plato’s understanding of the

¹⁰ Safranski quotes Heidegger: “In genuine retreat into history we gain the distance from the present which alone provides us with the space to run-up that is needed if we wish to leap out beyond our own present, i.e., to take it for what every present deserves to be taken – for being overcome... In the end, only our retreat into history brings us into that which is actually happening today” (Safranski, 2005: 297).

¹¹ “ὅτι περ πρὸς γένεσιν οὐσία, τοῦτο πρὸς πίστιν ἀλήθεια” (Plato, *Timaeus* 29c).

¹² For example, θεὸς ἀγαθός, theós agathós (Plato, *Timaeus* 30a).

¹³ See (Plato, *Timaeus* 29a).

idea tou agathou can be compared to the modern cosmologists' ideas on initial singularity in the Big Bang theory. The singularity is indirectly predicted, but it is not possible to prove or disprove its existence.

There is only one difference between the understanding of the idea tou agathou and the singularity, and it is critical for the philosophical school. *Plato specified the idea tou agathou as the defining axiom for all the theories and “ideal models” that were created in the philosophical school.* The main feature of the idea tou agathou, which Kant called the transcendental ideal, was the unity between cosmic processes and self-realization.

The defining meaning of agathos in ousía and genesis, i.e., simultaneously in a static and changing world, allowed Plato to argue for the unity between the macrocosm (μακρόκοσμος) and the microcosm (μικρόκοσμος). It allowed Plato to establish political education or *the idea of philosophy* based on Pythagoras's authoritative teaching. The idea of philosophy was formulated on an axiom, which meanings were indirectly predictable, and could not be disproved.

Plato, Aristotle, and other scholars did not explore the idea tou agathou. Plato used the phrase “εἰκότα μῦθον,” “the likely account,” opposing to “εἰκὶ λόγος,” “the rational account.”¹⁴ He wrote that a person should accept the likely account (εἰκότα μῦθον) of agathos and give up on its exploration.¹⁵ The teaching of agathos was created in late Platonism several centuries later. It was presented as the theory of the One. On the one hand, the theory of the One is the logical end of Plato's reflection on agathos. However, on the other hand, in the theory of the One, there is no more that strict rationalism, on the basis of which Plato created the idea of philosophy.

Thus, the retreat into the origins of the creation of a philosophical school reveals the main error of philosophical reflection in the period of modern history. *The recognition of being as the fundamental principle of the world as a process is erroneous.* All theories and the “ideal” models of global sustainable development, using the results of the exploration of the essence of being as such as a defining axiom, are developed on a secondary basis. Hence, ontology and/or metaphysics explore derivatives of agathos.

The defining axiom in Plato's educational theory was the immanent presence of agathos in a static and changing cosmos, as well as in the Creator of both worlds. Since the static nature of the kalos cosmos has been refuted by modern philosophical and scientific theories, and we leave aside the study of the demiurge (the Supreme Deity), who is agathos, following Plato and the authoritative scholars, the subject of our research is obvious. *We are investigating the immanent presence of agathos in genesis.* We will consider the defining issues of process philosophy, namely (a) genesis = the coming into being; (b) the ways of genesis = the ways of the coming into being; and (c) the connection between the coming into being and what is occurring.

Thus, we answer the questions, “What is there?” and “What is it (that is, whatever it is that there is) like?” It is the immanent presence of agathos in genesis.

The subject of our investigation is a new question: “How does agathos come into being?”

Plato answered the questions raised enunciating the cosmos' chronology, created by the demiurge, who was agathos.¹⁶ It was a consecutive creation of the images (εἰκόν, εἰκόν) from a paradigm (παράδειγμα) or an unchanging and eternal model. Agathos was conveyed through logos and phronesis (τὸ λόγῳ καὶ φρόνησις). Logos (λόγῳ) was a certain account

¹⁴ See (Plato, *Timaeus* 29b-d).

¹⁵ “and you who judge are but human creatures, so that it becomes us to accept the likely account (εἰκότα μῦθον) of these matters and forbear to search beyond it” (Plato, *Timaeus* 29d).

¹⁶ See (Plato, *Timaeus* 29a-b).

of complexity of the coming into being, accessible to intelligible. Phronesis (φρόνησις) represented the sophia qualities used in practice. All images (events of cosmochronology) had been changing. They could be investigated in unity, as a logos-bound Living Creature (ζῶον),¹⁷ or separately.

Plato's answer to the question "*How does agathos come into being*" correlates with the modern notions of the Universe coming into being from a singularity. The fundamental difference lies only in the fact that cosmological models do not investigate *the reason for the cosmochronology intelligibility*. They do not investigate *the reason for the unity* of the axioms of the Big Bang theory, the synthetic theory of evolution and the theory of noogenesis. Accordingly, they do not answer the main question, "*How does a thing's meaningful-presence-as come about?*"

The question "*How does agathos come into being?*" is a question about the source of meaningful presence. Agathos gives meaning and significance to presence. In his quest for an answer, Plato opposed genesis to phthoré. In modern history, Hegel rethought this opposition and presented it as a process of transition of being into nothing.¹⁸

We will consider the genesis of agathos as *Dasein* or *the movement of Sein in Da*. We have to open the full account of the complexity of the movement in order to comprehend the coming into being, the ways of the coming into being, as well as the connection between the coming into being and what is occurring. Only by answering the questions "What is there?" and "What is it (that is, whatever it is that there is) like?" we can answer the defining question of our research. *The answer to the question "How does agathos come into being?" or "How does a thing's meaningful-presence-as come about?" will reveal the essence of the agathou moulding power.*

A rethinking of Vernadsky's model

The question of the genesis of agathos calls for a rethinking of Vernadsky's model. We are to specify the defining axiomatics, predicted by modern cosmological theories, which cannot be refuted at this development stage.

The main feature of Vernadsky's model was the successful unification of the genesis of the Universe and the biosphere.¹⁹ Through the example of the Earth, Vernadsky considered the ways of the coming into being of Living Matter in certain parts of the Universe, as well as the connection between the coming into being Living Matter and planetary evolution. However, at the end of the 20th century, Vernadsky's model's key disadvantage was identified. *The model did not envisage the genesis of Intelligent Matter in the Universe.*

In 2000, based on Vernadsky's model, the author created the "Evolving Matter" theory.²⁰ The theory envisaged a general understanding of *the coming into being* of Inert Matter, Living Matter and Intelligent Matter, as well as some other states of matter. A uniform basis was proposed for the Big Bang theory, the synthetic theory of evolution and the theory of noogenesis.

¹⁷ οὕτως οὖν δὴ κατὰ λόγον τὸν εἰκότα δεῖ λέγειν τόνδε τὸν κόσμον ζῶον ἔμψυχον ἔννουν τε τῇ ἀληθείᾳ διὰ τὴν τοῦ θεοῦ (Plato, *Timaeus* 30b).

¹⁸ See (Hegel, 2010).

¹⁹ See (Vernadsky, 1975, 1977, 1987; Lovelock, 2010; Bazaluk, 2016).

²⁰ The final version of the theory is in the book "The Theory of Evolution: From a Space Vacuum to Neural Ensembles and Moving Forward," which was published in Russian and English languages (Bazaluk, 2016).

The "Evolving matter" theory was based on two postulates.²¹ First, evolution is the *complication* of the structure of matter, the types of interaction and the environments, though in the unity and struggle of opposites. The complication of the world is the complication of the three components of the physical reality: (a) the structure of matter; (b) the types of interaction (relations) between the structures of matter; (c) the environments, in which complication of these structures and interactions are carried out, and which, to a varying degree, determine environmental characteristics (Bazaluk, 2016: 35).

Second postulate, the complication of any state of matter (the Universe, the biosphere, or the noosphere) is formed by three factors and two causes. The factors of complication are:

- a) Continuity of self-complication of the structure, the types of interaction and the environments of any state of matter, supplemented by blocks of continuous self-complication and the principle of dominance of continuous block self-complication.
- b) Non-linear complication of the structure, the types of interaction and the environments of any state of matter, which is added by the factors: hierarchical non-linear complication and direction of non-linear hierarchical complication.
- c) Isolation of complication (or, Plotinus' setup for "self-assembly").²²

The causes of complication are:

- a) Active principle, which is inherently the basis for the initial elements of any state of matter and forms self-complication.
- b) Natural selection.

Interaction of the active internal principle of any state of matter with natural selection as the impact of the external environment forms a regulatory compromise.

On the basis of the postulates, the author systematized the accumulated knowledge about the evolution of the Universe, biological life, and human and came to the following conclusions (Bazaluk, 2016: 129-130):

1. Complications of the structure of matter, the types of interaction and the environments in our Universe have been carried out by hotbeds, continuously and non-linearly, over proximately 13.7 billion years. The complication of the structure and functions of the Universe happens under the influence of the same (Universal) factors and causes. In due course, there is a complication of universal factors and causes, which leads to the formation and development of the *n* number of *states* of matter.

2. Each state of matter is a new account of complexity of the structure of matter, the types of interaction, and the environments. In consequence of the complication of each new state of matter comes the formation of invariant hierarchies, providing fixation of the state of matter in the structure of the Universe and its co-evolution with other states of matter. Each new state of matter brings new opportunities for the organization of the circulation of substances, energy and information, as well as ways of moving in space.

3. As a result of studying the modern scientific and philosophical theories of global order (the cosmos), the unity of micro and macroevolutionary processes was discovered. The basis of this unity is the variability of factors and causes of the complication. The transition from the microcosm to the macrocosm in Inert Matter, Living Matter, Intelligent Matter and any

²¹ We shall consider only those provisions of the "Evolving matter" theory, which are necessary for building the theory of education. The arguments of these provisions, as well as the theory of evolution itself, can be found in the book (Bazaluk, 2016).

²² See (Plotinus, 1952).

other states of matter is a consequence of the impact of regulatory compromise, as well as the variability of the factors and causes of complication, which determine the complexity of *the coming into being*.

4. During the work on the complication models of Inert Matter, Living Matter and Intelligent Matter, the author discovered and investigated the *transition* states of matter. They were defined by the terms “Bioinert” and “BioIntelligent” matter.²³ Namely, the “transition” states of matter complicate the systematization of knowledge, as, on the one hand, they are structurally and functionally the highest structures of the “mother” state of matter, and on the other hand, they are included in the more perfect blocks of the “daughter” state of matter. “Transition” states of matter are the maximum possible limit of continuous and non-linear complication of the “mother” state of matter. Modern science does not know of any examples when in the “mother” state of matter, a complication of the structure, the types of interactions, and the environments went beyond the hierarchy of a transition state of matter.

5. On the example of the Solar System, only one sequence of the complication of the structure of the Universe can be seen: Inert Matter → Living Matter → Intelligent Matter, or alternatively, taking into account “transition” states of matter: Inert Matter → Bioinert Matter → Living Matter → BioIntelligent Matter → Intelligent Matter. The modern understanding of the complication of these states of matter is considered in the Big Bang theory, the synthetic theory of evolution and the concepts of noogenesis.

6. In the Solar System, the states of matter have been formed sequentially, at intervals of approximately 3 billion years:

- a) Approximately 6 (5.5) billion years ago, in the Milky Way Galaxy, the Solar System was formed – one more hotbed in uneven, continuous and non-linear block complication of the Universe. Vernadsky denoted the structure and functions of our Universe by the term “system of Inert Matter.”²⁴
- b) Approximately 3.5 billion years ago, as a result of geological evolution, on the Earth, the first biological organisms emerged and gained a foothold. Over 3 billion years, they formed the system of Living Matter, which was denoted by the term “biosphere.”
- c) Approximately 6-7 million years ago, as a result of neuroevolution, on the basis of the highly developed biosphere of Earth, the first structures of Intelligent Matter emerged. This started the formation of the noosphere.

Extrapolating the Solar System studies’ results on the structure of the Universe leads to a whole series of conclusions. Let us consider the following:²⁵

1. At the scale of the Universe, five states of matter are evolving as a minimum. One of the unknown states of matter to modern science is the “mother” state for our own Universe. The Universe is developing within it, and probably separate features, ascribed by modern science to the Universe (e.g., gravitation), are actually manifestations of states of Y-Matter. The second state of matter, still unidentified by the scientists, emerged on the basis of highly developed Intelligent Matter. In the model, it is indicated as X_1 -Matter. The model admits X_2 -Matter, where of Y-Matter is probably formed and the so-called “new Universe” emerged. These successive stages of complication of the states of matter can include an n number

²³ See (Bazaluk, 2016).

²⁴ To be precise, Vernadsky used the concept “Inert Substance.” In the works, we gave arguments for the advisability of replacing the term “Inert Substance” with “Inert Matter” (Bazaluk, 2016).

²⁵ See (Bazaluk, 2016).

- of chain links, but the result is the birth of a “new Universe” when saving an “old Universe.”
2. The complication is happening uneven and through “hotbeds.” If we suppose that the Universe perceived by humanity is a fragment of space in which continuous and non-linear complication of the structure of matter, the types of interaction and the environments are happening, then it is possible that “Our Universe” is nothing other than a plurality of Universes which are observed by man in one or other state of complication.
 3. The Earth’s noosphere in the modern state is only the beginning of noogenesis. In future, a minimum of 3 billion years of continuous and non-linear complication are to be expected. Great changes are upon humanity. The scope of changes can be compared using the example of the complication of Inert Matter and Living Matter in the Solar System. Inert Matter had been complicated for 3 billion years from quarks to polymers, Living Matter from RNA molecules to mammals. The complication of the Intelligent Matter of the Earth began with neural-ensembles of subconsciousness that separated out the family of the most progressive primates (hominid) from the animal world. For 6-7 million years, neuroevolution, sociocultural evolution and the evolution of the technologies of the most ancient hominids have brought us to the exploration of near-Earth space. Taking into account that in 1 billion years, the condition of the Earth will be unsuitable for biological life due to physical changes in the sun, a strategy of the evolution of Intelligent Matter becomes evident. It is (a) to obtain utmost liberation from factors of the biological environment; substituting them with more reliable and controlled artificial constructs; (b) the exploration of the near and far space; (c) the complication of the sociocultural environment and technologies to a level, protecting the noosphere from the destructive influence of the cosmos.

In general, the “Evolving matter” theory proves that the evolution of the Universe, the biosphere and the noosphere of the Earth is a single process of complication of the structure of matter, the types of interaction and the environments. The complication of matter in the Universe and the Solar System is subject to common factors and causes. Complications of each state of matter begin with the initial and definite space, last about 3 billion years and have its limits. Having reached the limit of self-complication of the structure, the types of interaction, and the environments, the system of any state of matter creates conditions for the formation of a “daughter” state of matter. The fact of the presence of a “daughter” state of matter changes the existing order (the cosmos). In the new order, the “mother” and “daughter” states of matter are complicated as a single whole.

The “Evolving matter” theory allows the possibility of a simultaneous presence of a certain number of states of matter in the Universe, at different stages of their complication. We can speak of the five states of matter with the greatest probability:

1. Y-Matter is substance, the types of interaction and the environments, which preceded Inert Matter, and at the scale of which Inert Matter arose and continues to become more complicated. Y-Matter is not recognized and is not studied by modern science.
2. Inert Matter is ours and other Universes. At present, the Big Bang theory gives the complete understanding of continuous and non-linear complication of Inert Matter.

3. Living matter is the biosphere, which naturally arises in various parts of the expanding Universes, on space objects with a certain range of physicochemical characteristics. The synthetic theory of evolution provides a complete understanding of the continuous and non-linear complication of the biosphere in an individual cosmic object.
4. Intelligent Matter is noospheres, which naturally arise on the basis of highly developed biospheres. In modern science, the cosmic significance of Intelligent Matter is not recognized. The theory of the complication of Intelligent Matter has not been developed.
5. X_1 -Matter is a state of matter which naturally arise in highly developed noospheres. Modern science does not recognize and research this state of matter.

The states of matter listed above are formed sequentially, through “hotbeds,” with a certain range of physicochemical characteristics, and at intervals of approximately 3 billion years. The totality of states of matter forms continuous and non-linear complication, which is denoted by the term “Universe” in modern science. The “Evolving matter” theory allows the existence of a certain set of Universes and, accordingly, cosmic biospheres, noospheres, etc.

Philosophy of the Cosmos

The “Evolving matter” theory is the scientific theory that, in a certain way, systematizes the knowledge of the last four centuries. The theory gives insight into the modern understanding of the world as a process. It follows from the theory that each state of matter is a part of the whole, which, by its coming into being causes the complication of the whole. Following Plato, we will call the whole by the term “the kalos cosmos.”²⁶ We consider kalos (καλός) as a regulatory compromise. This is agathos. The cosmos (κόσμος) is a world order. In this sense, Pythagoras was the first to use the term.²⁷

The kalos cosmos is a certain account of complexity of the movement of *Sein in Da*. The highest complexity account is agathos, the lowest is what is occurring.

Philosophy of the cosmos explores the kalos cosmos. The term “philosophy of the cosmos” is made up of two terms “philosophy” and “cosmos,” which we take strongly rational and in Plato’s meanings. Philosophy is the practice that Pierre Hadot set as the idea of philosophy.²⁸ It is a transformation of a discourse and a way of life in accordance with the results of the kalos cosmos study. The kalos cosmos is a certain order that is agathos. It is formed by the structure of matter, the types of interaction and the environments, which get continuously and non-linear complicated and self-assembled. Each self-assembly is a certain complexity account, open or closed for intelligibility. This implies the definition of philosophy of the cosmos. *It is the use of the intelligibility results the complexity of the kalos cosmos (the movement of Sein in Da) for a specific discourse and a way of life creation.*

Philosophy of the cosmos does not seek answers to the questions “What is there?” and “What is it (that is, whatever it is that there is) like?” It is the task of metaphysics. However, philosophy of the cosmos addresses these issues. It explores the coming into being, the ways of the coming into being, and the connection between the coming into being and what is occurring, to use the obtained results to create a special practice.

²⁶ See (Plato, *Timaeus* 29a-b).

²⁷ See (Liddell & Scott, 1940).

²⁸ See (Hadot, 1999: 39).

Philosophy of the cosmos has two goals:

1. To resolve the question “How does agathos come into being?” or “How does a thing’s meaningful-presence-as come about?”
2. To use the obtained results for a specific discourse and a way of life creation.

To achieve these goals, philosophy of the cosmos address the following challenges:

1. To formulate the axiomatic systems of the complication theories of Y-Matter, Inert Matter, Living Matter, Intelligent Matter and X_1 -Matter.
2. To creates the “ideal models” of sustainable development of the states of matter, the set of which *forms the kalos cosmos*.
3. To reveal the essence of the agathou moulding force of each state of matter.

The research subject of philosophy of the cosmos is *the account of complexity of the movement of Sein in Da, which includes the source of meaningful presence, or the idea tou agathou*.²⁹ Agathos reveals phronesis, the required moulding force of agathos. The phronesis acquisition is equivalent to cosmic force acquisition.

Thus, philosophy of the cosmos considers the answers to the following questions “What is there?” and “What is it (that is, whatever it is that there is) like?” as an opportunity to present the kalos cosmos through the “ideal model” of the global sustainable development. Its methodology and tools are aimed at the phronesis mastering, as well as the transformation of what is coming into being and what is occurring, in accordance with the kalos cosmos.

The modern possibilities of the intelligibility of the highest account of complexity of the movement of *Sein in Da* reveal two key axioms that define the kalos cosmos. These are the initial and defining axioms of philosophy of the cosmos.

The first axiom: *agathos is immanently present in everything that is coming into being*. Therefore, any theory or an “ideal” model describing *the coming into being* is based on the axiom of the immanent presence of agathos. Plotinus considered agathos as the absolute One. It was the fundamental principle of being, which determined the essence of the static and emerging cosmos.³⁰ We will keep Plotinus’s term “the One,” but clarify its meaning. *Philosophy of the cosmos explores Dasein-the-One*. The use of the term “the One” emphasizes that agathos is not only immanently present in every account of complexity of the movement of *Sein in Da*. *Agathos is the only opportunity to convert any account of complexity from closedness into openness*. The study of *Dasein-the-One*, with the emphasis on the last word, implies that all what is coming into being and what is occurring is rational and intelligible due to the immanent presence of agathos.

The second axiom: the coming into being (*gignomai*) is the movement of *Sein in Da*. It has a certain account of complexity. The highest account is the openness of the source of meaningful presence. The source is agathos. The account of complexity ends up with what is occurring. Hence, *philosophy of the cosmos explores Dasein-the-One*. On the one hand, the term “Dasein” accumulates the methodology and tools of the cognition world as a process, developed in the philosophical school. On the other hand, the term “Dasein” accumulates the entire volume of the multidisciplinary knowledge on the world as a process. Its scientific basis is the “Evolving Matter” theory, which reveals the world as a process as a *complication* of the structure of matter, the types of interaction and the environments. Dasein is defined by three factors and two causes of complication.

²⁹ See (Bazaluk, 2021).

³⁰ See (Plotinus, 1952).

The formulated axioms reveal the kalos cosmos as *Dasein-the-One*. Philosophy of the cosmos presents *Dasein-the-One* as the modern intelligibility of the coming into being, the ways of the coming into being, as well as the connection between the coming into being and what is occurring. *Dasein-the-One* is a continuous and non-linear complication of the structure of matter, the types of interaction and the environments in which agathos are immanently present. The factors and causes of complication determine the coming into being and what is occurring. They develop the chronology of complication or a certain account of complexity of the movement of *Sein* in *Da*. The passing and happening of *Dasein-the-One* define the experience of *Dasein* being. The latter forms a specific focus of the coming into being, as well as its energy of the meaningful presence in what is occurring.

The idea tou agathou

The first axiom of the “Evolving matter” theory is formulated on the result of the intelligibility of the connection between the coming into being and what is occurring. This connection reveals the integrity of *the movement* of *Sein* in *Da* and unity within the meaning of the highest idea, ideal and values. Let us explore it.

According to Plato, the unity between the coming into being and what is occurring was provided by the idea tou agathou (ἡ τοῦ ἀγαθοῦ ἰδέα). It specified the work of the demiurge as the Creator of the kalos cosmos.³¹ Plato considered the idea tou agathou in his dialogues “*Timaeus*,” “*Parmenides*” and “*Republic*.” To reveal the idea, he used the analogy of the sun,³² the analogy of the divided line,³³ and the allegory of the cave.³⁴ It appeared to Plato that the idea tou agathou was “the cause of epistēmēs and of alítheias,”³⁵ and defined ousia and everything that was available and not yet available to knowledge.³⁶ The idea tou agathou was “the beginning of all” (“the origin of all”),³⁷ in the meaning of the principle responsible for everything (παντός, = each, = whole) created. *The idea tou agathou had the moulding power.*

Heidegger explored the connection between the coming into being and what is occurring as the care. In Heidegger’s philosophy, the term “care” has the same significance as the term “*Dasein*.” Care appeared as the essence of *Dasein*. Koyré described the relation between *Dasein* and care as follows: “Since *Dasein* appears essentially as “care,” its connections with other entities would generally appear as the “taking care” (besorgen); this means that in its needy and caring existence, *Dasein* will take care of a huge number of things “relating to it or to his own being” (Koyré, 1999).

We state that the idea tou agathou provides the connection between the coming into being and what is occurring. We get the idea tou agathou differently from Plato. The openness of the *Dasein-the-One* is a continuous and non-linear *complication* of the structure of matter, the types of interaction and the environments. The complication is determined by the factors and reasons outlined in the “Evolving matter” theory. However, the complication as an idea is studied in philosophy of the cosmos. The idea of complication is the answer to “How does agathos come into being?” or “How does a thing’s meaningful-presence-as come about?”

³¹ See (Plato, *Timaeus* 29a).

³² See (Plato, *Republic* 6.508b–509c).

³³ See (Plato, *Republic* 6.509d–511e).

³⁴ See (Plato, *Republic* 7.514a–520a).

³⁵ αἰτίαν δ’ ἐπιστήμης οὖσαν καὶ ἀληθείας (Plato, *Republic* 6.508e).

³⁶ See (Plato, *Republic* 6.509b).

³⁷ παντὸς ἀρχὴν (Plato, *Republic* 6.511b).

The idea of complication involves transforming the environment in order to achieve complete openness.

It is quite evident that the coming into being is the openness. It is agathos, as it is coming into being in Dasein-the-One. The coming into being is determined by the experience of Dasein's being: it has a certain focus and limits of self-realization. Each coming into being is a potency. It concentrates a certain experience of Dasein's being, which turns the coming into being into the potential of Dasein-the-One. This happens only when the coming into being remains open to what is occurring. The openness is an “ideal” state of the coming into being that ensures its sustainable development and prosperity.

The openness of the coming into being and of what is occurring differ. The disclosedness of what is occurring often appears to be the closedness to the coming into being. Therefore, the coming into being should make some effort to maintain its openness in what is occurring. This effort is the essence of potency realization into the energy of a meaningful presence. It overcomes the veto of what is occurring unilaterally to decide: the coming into being must be open or closed. The coming into being is realized as the Dasein-the-One potential or as the complication only by defending the possibility to be open in what is occurring. A proven right of what is occurring to be open modifies the coming into being into the significant and meaningful presence.

Hence, every new complication of the structure of matter, the types of interaction and the environments is the coming into being that overcame the hiddenness of the outside environment in order to realize the potency concentrated in it into the energy of the meaningful presence. *The coming into being, realized as an energy of the meaningful presence, we call the source of Dasein-the-One.* The openness of the coming into being is that what is occurring is equivalent to the source energy. It is the energy of the regulatory compromise forms the kalos cosmos, which is agathos.

The coming into being goes on continuously, non-linearly, and in different ways. A certain closedness protects what is occurring against the chaos that the coming into being can cause. Therefore, it is agathos. It prevents *all* coming into being from keeping its openness in what is occurring. It controls that only the potency of the coming into being, which corresponds to agathos of what is occurring, is transformed into the energy of the meaningful presence. The correspondence of agathos of the coming into being and agathos of what is occurring is the reason for the new complication. Agathos of the coming into being *transforms* agathos of what is occurring, and outwardly, it is kalos.

Keeping the openness of the coming into being in what is occurring, is nothing more than *the coming into being of agathos in agathos of what is occurring.* And this is not about the addition of agathos of the coming into being and what is occurring. *Agathos of the coming into being transforms agathos of what is occurring.* The transformation of agathos as an action we call phronesis. Phronesis is the coming into being, converting certain closedness of what is occurring into a certain disclosedness. Or it is equivalent to the transformation of the coming into being potency into the energy of the meaningful presence of what is occurring. Phronesis modifies the kalos cosmos, setting a new regulatory compromise.

Therefore, we have discovered the required moulding force of agathos. Agathos of the coming into being, as a certain disclosedness (potency) transforms agathos of a certain closedness of what is occurring. The result of this transformation is a modified disclosedness / closedness of what is occurring, in which agathos of the coming into being is an important actor of the kalos cosmos.

Phronesis as an agathos action generates a new account of complexity of the movement of Sein in Da. We call logos the account of complexity of the Dasein-the-One with an immanent agathos. The presence of agathos in logos guarantees the openness of what is occurring and its connection with the coming into being.

We shall formulate the first axiom of the theory of education, “Those Who Transform the Universe” as follows. *The idea tou agathou is a transformation of the closedness of what is occurring into disclosedness.* It is represented in logos and phronesis. Logos is a certain account of complexity of the movement of Sein in Da, which results from the change of the regulatory compromise (the kalos cosmos) by phronesis. Phronesis is the transformation of the coming into being potency into the energy of the meaningful presence.

The idea tou agathou represents Dasein-the-One as a continuous and non-linear complicated connection between the coming into being and what is occurring. The intelligibility of the connection represents a certain account of complexity of the movement of Sein in Da, which is revealed as Dasein of states of matter. These are images (εἰκόων) that arose in succession from Dasein-Y-matter. Each new Dasein of state of matter is formed by phronesis. The unity of agathos of the coming into being transforms agathos of what is occurring. Logos is a certain account of complexity of the movement of Sein in Da, which results from the change of the regulatory compromise (the kalos cosmos) by phronesis.

Agathos of what is occurring concentrates the experience of Dasein being or the previous account of complexity of Dasein-the-One. It causes the new coming into being. The experience of Dasein’s being sets the focus and limits of Dasein of new state of matter in what is occurring. The copies, or images, are created out of this paradigm.

The coming into being and then the meaningful presence of Dasein of a new state of matter becomes possible due to the compatibility of agathos the coming into being with agathos of what is occurring. This is the compatibility of the image with the paradigm. On the one hand, the agathos of what is occurring (the Dasein’s being experience) determines the basic characteristics of Dasein new state of matter. On the other hand, Dasein of “daughter” state of matter transforms what is occurring (Dasein-the-One) by the fact of its meaningful presence. The energy of the meaningful presence of Dasein “daughter” state of matter determines a new regulatory compromise and further continuous and non-linear complication of Dasein-the-One.

Dasein of the “daughter” state of matter is a new account of complexity of the structure of matter, the types of interactions and the environments. This is a new way of meaningful presence: being-there for oneself and, at the same time, being there for the others. To become what is occurring in the “mother” state of matter and to create its own system in it means to make certain changes in the complication of the “mother” system and, consequently, in the complication of the Universe. Each new state of matter *transforms the Universe by the fact of its coming into being and turning into the energy of the meaningful presence*, i.e., its Dasein.

In order to transform potency into the energy of the meaningful presence of what is occurring, each new state of matter should possess two basic qualities:

1. *The possibilities to make full use* of the material, energy and information resources of the “mother” state of matter.
2. *The possibilities to transform* the “mother” system in order to create conditions for continuous and non-linear complication of its own structure and functions, i.e., to create the “daughter” system.

It follows from the “Evolving matter” theory that each new state of matter turns into the “mother” system, after about 2 billion years of continuous and non-linear complication. It

allows the coming into being of new structures and functions that can be fixed in Dasein-the-One. We called these structures “transitional” states of matter. From a certain set of continuously and non-linearly coming into being transitional states of matter, only one state of matter is fixed, which most effectively use the resources of the “mother” system.

The “daughter” system occupies an “insignificant” place at the scale of the “mother” system. However, despite the fact that the scale of the presence of each new state of matter in an expanding Universe is significantly reduced, its ability *to transform the Universe*, on the contrary, is increasing. The reason lies in Dasein of a new state of matter. It is concentrated the Dasein’s being experience of the previous states of matter, which ensures the openness of the entire account of complexity of Dasein-the-One.

Conclusions

Philosophy of the cosmos actualizes new meanings in the understanding of the evolution of the Universe, which we have designated by a metaphor “Those Who Transform the Universe.” From our point of view, the metaphor fully conveys the meanings of the idea *to agathou* as the idea of transforming closedness of what is occurring into disclosedness. It directs philosophy from the macrocosm to the microcosm and returns true significance to it, that is, *be a way of life*. Philosophy again becomes “the way, the truth and the life.”

It follows from philosophy of the cosmos that Dasein-Intelligent-Matter, which is represented by society on Earth, is one of the five possible states of matter that form the Universe.³⁸ It is an important part of the whole that forms the *kalos* Universe, or a regulatory compromise. Dasein-Intelligent-Matter is a force of the cosmic scale, which causes of the expansion Universe along with other powers. Philosophy of the cosmos opens up a new understanding of man as an idea – a *man who transforms the Universe*. Dasein-Intelligent-Matter come into being in certain physical and chemical conditions of a space object in order to subsequently transform it into a starting point for cosmic expansion.

Modern scientific knowledge makes it possible to compare the complication of Dasein-Living-Matter and Dasein-Intelligent-Matter of the Earth and to reveal the following features in their meaningful presence. The energy of Dasein-Living-Matter is solely aimed at the transformation of a cosmic object. Over the last 3 billion years of continuous and non-linear complication on Earth, Dasein-Living-Matter manifested itself primarily as a planetary power, purposefully turning the Earth into a self-regulating system.³⁹ Dasein-Intelligent-Matter was formed in Dasein-Living-Matter and is its “daughter” state. To manifest itself as a planetary power, it took only a few million years. During this short period of continuous and non-linear complication (in fact, further ahead, 3 billion years!), the Dasein-Intelligent-Matter of the Earth clearly demonstrated its focus on resource development in the Universe. Structurally and functionally, Dasein-Intelligent-Matter was created to intelligible Dasein-the-One. Intelligible the account of complexity of the movement of Sein in Da opens Dasein-Intelligent-Matter the resources of the previous states of matter and turns it into cosmic force.

Philosophy of the cosmos discloses that the Earth’s noosphere is one of the sets of cosmic noospheres that naturally emerged in one of the “hotbeds” of our Universe. The existence of a certain number of “hotbeds” in a single Universe is allowed, which are at different stages of complication: from several million years to billion years. Given the propensity of Dasein-Intelligent-Matter to migration in the Universe, we can allow a certain influence of

³⁸ Another number of states of matter is also allowed.

³⁹ The meanings of this system are sufficiently expounded in the scientific hypotheses of Vladimir Vernadsky and James Lovelock (Vernadsky, 1975, 1977, 1987; Lovelock, 2010).

highly developed cosmic civilizations on less developed ones, as well as competition and cooperation between them.

The study of the stages of the complication of the Solar System find that complication of Dasein-Intelligent-Matter of the Earth occurs through the competitive struggle:

1. With continuously and non-linearly complicating “mother” system of Living Matter. This means competition between the biosphere and the noosphere for the resources of the “mother” system and the domination on planet Earth.
2. With continuously and non-linearly complicating system of Inert Matter. We mean fixation of Dasein-Intelligent-Matter of the Earth at the scale of the Solar System and the Milky Way.
3. With cosmic noospheres, that is, highly developed systems of Intelligent Matter for space resources.

It follows that Dasein-Intelligent-Matter of the Earth is complicated in the competitive environment of cosmic power. The major competition unfolds not on a planetary scale with the force of nature and in conflicts and wars with each other. It will take place in the cosmos for space resources development and the right to the meaningful presence in complicating the Universe. As space activity increases, Dasein-Intelligent-Matter of the Earth will face with a more rigid, uncompromising, not always equal and safe for itself competition in the cosmos. The real danger for Dasein-Intelligent-Matter of the Earth is beyond the Earth and has an extraterrestrial nature. In the near future, humanity will face those who are already transforming the Universe!

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