For Daughter Victoria on her Birthday

BEING &LOGOS
OntoTopoLogia → Big Ontological Revolution

Vladimir Rogozhin
ideabank@yandex.ru

The essay presents the main ideas of the philosophical system «OntoTopoLogia», developed and promoted since 1990 at the I-IV, VIII Russian Philosophical Congresses, the XX World Philosophical Congress (Boston, 1998), Conference «Problems of Consciousness in Philosophy and Science» (Institute of Philosophy RAS, 1996), Conference «Philosophy of Physics: Current Problems» (MSU, 2010), seven International contests The Foundational Questions Institute (USA, FQXi Essay 2012-2020), International scientific conference «Modern Ontology» (St. Petersburg , 2013, 2017, 2019, 2023), Third All-Russian Scientific Conference «Philosophy of Mathematics: Current Problems» (MSU, 2013), International Congress «Fundamental Problems of Natural Science» (St. Petersburg, 2013, 2016, 2022), Conference «Foundations of Fundamental Physics and Mathematics» (RUDN University, 2023).

In general, this is the result of the «adventure of ontological ideas» over 34 years of independent travel along the philosophical «rivers of knowledge and cognition». Always, in moments of relaxation and reflection on the past, I watch a wonderful video [1] again and again, remembering how the whole family sailed on the «Blagoveshchensk» steamship along the Lena River from the port of Osetrovo to the village of Mukhtuya in Yakutia in July 1961 for the construction of the Vilyuiskaya hydroelectric station . Without understanding the «Heraclitean river», «*understanding space*» it is impossible to «*grasp»* (understand) the dialectics of Nature, the dialectics of Life, the dialectics of the Cosmos.

The ideas of the «OntoTopoLogia» system are aimed at overcoming the conceptual-paradigmatic crisis in the metaphysical/ontological basis of fundamental science (mathematics, physics, cosmology) on the basis of a holistic paradigm («paradigm of understanding»), a comprehensive conceptual-figurative synthesis, a method of dialectical-ontological construction, MetaCategory, MetaAxiom, SuperPrinciple and Metasymbol, a new holistic understanding of matter, its ontological unification across all levels of existence of the Universe as eternal holistic process of generating more and more new meanings, forms and structures. A model of the Primordial (absolute) generating structure is being built - a single ontological basis of knowledge: ontological frameworc, carcass, foundation as an all-encompassing Ideality, a single basis for the «sciences of nature» and «sciences of the spirit».

On the origins of the conceptual-paradigm crisis in the foundations of knowledge

Moving from different directions, we come to the same conclusion:
we need an all-encompassing, holistic philosophical thought.
V. Nalimov

It is by a mathematical point only that we are wise,
as the sailor or the fugitive slave keeps the polestar in his eye;
but that is sufficient guidance for all our life.
We may not arrive at our port within a calculable period,
but we would preserve the true course.
H.D.Thoreau

Fundamental science is experiencing a conceptual-paradigmatic crisis into the metaphysical/ontological basis, manifested as a «*crisis of understanding*» [2,3], «*crisis of interpretation and representation*» [4], «*loss of certainty*» [5], «*trouble with physics*» [6], «*methodological crisis*»[7]. The roots of the crisis lie both in initial cognitive attitudes of science of the New Time and in the lack of proper financial and organizational support for the competition of

the main research programs/paradigms of the formation of the New Time - Newton, Descartes, Leibniz. The lack of support for competition in basic research programs/paradigms today has led to the fact that «fundamental science» has been experiencing a deep «crisis of fundamentality» for half a century. Fundamental science has «rested» in understanding the ontological structure of matter and space, the nature of the «*laws of nature*», «*fundamental constants*», the nature of the phenomena of time, number, information, consciousness, the ontological structure of the «*first-beginning*». The comprehensive crisis of knowledge, the «crisis of fundamentality» is essentially a deep and all-encompassing ontological crisis. The crisis of the philosophical foundations of fundamental science has become one of the key reasons for the planetary existential crisis, which has extremely aggravated the question of the existence of Humanity and life on planet Earth.

To understand the origins of the modern «crisis of fundamentality» in science, it is necessary to note the imaginative thoughts of one of the most influential philosophers of science of the 20th century, Karl Popper: *«Thus, there is nothing «absolute» in the empirical basis of objective science. Science does not rest on a solid foundation. The bold structure of her theories rises, so to speak, above the swamp. It looks like a building built on stilts. The piles are driven from above into the swamp, but not to any natural or «given» foundation; and if we stop driving the piles deeper, it is not because we have reached solid ground. We just stop when we are satisfied that the piles are strong enough to support the structure, at least for now.»* [8]

Karl Popper excludes the absoluteness of knowledge: no objective knowledge can be absolute. «Absolute» means «unconditional» in Latin. But how, on the basis of the «swamp methodology,» can we test the so-called «Big Bang theory» and «*grasp*» the ontological structure of the «*first-beginning*» of the Universe and knowledge? K. Popper did not understand dialectics either.[9] How is it possible, without dialectics of the «*coincidence of ontological opposites*» to «grasp» the basic ontological structure of the «*language of Nature*», if mathematics by its nature is Absolute Dialectics? This was convincingly shown by the famous mathematician A.D. Aleksanrov in the article «*Mathematics and Dialectics*»[10] and the philosopher A.F. Losev in «*Dialectical foundations of mathematics*».[11] Mathematics «connects the unconnected» and represents the result of the connection in the Sign/Eidos and Logos/ Law/Axiom.

But another conclusion of K.Popper is extremely important for building a reliable foundation of knowledge: «*I, however, believe that there is at least one truly philosophical problem that interests any thinking person. This is the problem of cosmology - the problem of knowing the world, including ourselves (and our knowledge) as part of this world. All science, in my opinion, is cosmology, and for me the value of philosophy is no less than science, it lies exclusively in the contribution that it has made to cosmology*.» [8]

It is obvious that in order to overcome the modern crisis in the foundations of fundamental science, it is necessary to «dig» / «immerse piles» to a more solid, «basalt layer» - to the most remote meaningful depths of the existence of the Universe as an integral process of generating meanings, forms and structures. That is, to build a reliable/absolute/ideal basis not only for fundamental science, but for science and knowledge in general. Here it is necessary to remember and comprehend the very important universal philosophical testament of B. Russell: *«What men really want is not knowledge but certainty.»*

Today, total semantic and conceptual uncertainty reigns in the foundations of fundamental science: «Big Bang»… «singularity»… «dark matter»… «dark energy»… «multiverse»… «antimatter»… «inflation»… «collapse»... It is especially necessary to note the pseudoscientific «Big Bang theory», which not only introduces semantic uncertainty into the foundations of science, but is an existentially dangerous «theory» that forms a pessimistic anti-scientific worldview among new generations.

The long «unifying epic» and analysis of the philosophical foundations of fundamental physics («*standard models*», «*systems of the world*»), the sum of gnoseological/epistemological crises and «*troubles*» in its foundations, leads to the need to conclude: Quantum theory and General relativity are phenomenological (parametric, operationalist, «effective») theories without ontological justification (ontological basification).

Lee Smolin: «*All of the theories we work with, including the Standard Model of particle physics and General relativity, are approximate theories that apply to truncations of nature that include*

only a subset of the degrees of freedom in the Universe. We call such an approximate theory an effective theory.» [6]
David Deutsch: «*The best of our theories show profound inconsistencies between them and the reality they are supposed to explain. One of the most glaring examples of this is that in physics there are now two fundamental «world systems» - Quantum theory and General relativity - and that they are fundamentally inconsistent with each other.»*[12]
Also, String Theory is a phenomenological (parametric) theory without ontological justification. Any theory that claims to describe the existence of the Universe as an holistic generating process must be ontologically justified (ontological basification of the theory).

It is obvious that theoretical physicists need to agree with the conclusion of K. Rovelli: «***Physics needs philosophy / Philosophy needs physics***»[13]. The same conclusion can be applied to mathematics, taking into account the unsolved «Millennium Problem №1» - the problem of its ontological justification (ontological basification), and therefore knowledge in general.

But how is it possible to «grasp» (understand) the ontological structure of the «**language of Nature**» - mathematics, if ontology itself is experiencing a crisis? Here it is necessary to cite in full the extremely important conclusion of the mathematician and philosopher Dmitry Bukin: *«The crisis of the foundations of mathematics is, first of all, a crisis of ontology, the essence of which is the inability to describe objects, the fact of existence or formation of which goes beyond the usual ideas about the world. The way out of such a crisis must be sought not so much in improving the methods of mathematics itself, but in updating the cognitive means of ontology, which do not deny the classical paradigm, but can go beyond its framework. In this sense, dialectics is a historically proven method of comprehending the existence of a mathematical object in its development and relationship with objective reality.»* [14]

What is most alarming for cognition is the «*loss of certainty*» and the problem of foundations also in logic. [15,16]

In particular, Doctor of Physical and Mathematical Sciences A.A. Zenkin in the article «***Scientific Counter-Revolution in Mathematics***» notes: «A*bout thirty years ago, for the sake of «sports interest« I began to collect various «logics« used in modern logical-mathematical treatises. When their amount exceeded the second hundred, it has become clear: if the logic can be selected «on a taste« (or even can be constructed «on a need«), such notion as «science« becomes here simply inappropriate. Perhaps, the situation somewhat reminds the famous «Babylon« epic: the sounds – symbols of abstract speeches are almost the same, but the sense, if that is present, of everyone is peculiar. What was the end of the First Babylon is described in The Holy Bible...»* [17]

The philosophical and general scientific problem of the ontological justification/substantiation of knowledge as a process, the problem of eidetic-constructive comprehension of the meaning and essence of the source of science is t**he problem of the structure of the «*physical (metaphysical) first-beginning*»[18] of the Universe and knowledge**.

To find a reliable foundation for the entire system of knowledge and cognition, it is necessary to remember and deeply comprehend the philosophical testament of the Fields Prize winner, mathematician V. Voevodsky: *«What we now call the crisis of Russian science is not a crisis of Russian science alone. There is a crisis in world science. Real progress will consist of a very serious fight between science and religion, which will end with their association.»* [19]

I agree with this testament of A. Voevodsky. But the question is: on what basis will a «***very serious fight***» take place, taking into account the entire path of development of science, the formation of world religions and the modern existential crisis of Humanity?

Holistic/Existential paradigm → Comprehensive ultimate conceptual-figurative synthesis → Method of dialectical-ontological construction

We are no longer satisfied with insights only into particles,
fields of force, into geometry, or even into time and space.
Today we demand of physics some understanding of existence itself.
John A.Wheeler
Precise language must await the completion of metaphysical knowledge.
A.N.Whitehead

To get out of the comprehensive crisis in the metaphysical/ontological basis of knowledge, a holistic paradigm («paradigm of understanding», the existential paradigm) must come to the aid of the paradigm of the part («mechanistic», «force/power») that has dominated science and society since the scientific revolution of Modern Times («*second Archimedean revolution*»), which requires new, more deep ontological and methodological ideas, extremely generalizing images, concepts, conceptual constructs, semantic attractors, deepening the methodologies of axiomatization and geometrization, allowing to «*compress*», to structure and represent accumulated knowledge in images, symbols, ontologically based constructs, semantically expand the metaphysics of the process with its development into a constructive dialectical metaphysics/ontology of the holistic process of generating more and more new meanings, forms and structures.

Overcoming the crisis in the foundations of knowledge is carried out on the basis of: a) **the holistic/existential paradigm («paradigm of understanding»**); b) a new understanding of matter, developing the ideas of Heraclitus-Plato-Aristotle-Cusanus-Descartes-Hegel-Bergson, Whitehead: **matter is that from which all meanings, forms and structures are born**; c) **the comprehensive conceptual-figurative synthesis**, which is based on the dialectical and ontological ideas of ancient Egyptian and ancient Chinese mythology and philosophy of Heraclitus, Plato, Aristotle, Cusanus, Galileo, Descartes, Spinoza, Leibniz, Kant, Hegel, A,Bognanov, P. Florensky, Husserl, Bergson, Teilhard de Chardin , Whitehead, Wheeler, A. Losev, M. Mamardashvili, V. Nalimov, A. Zenkin, G. Gutner, V. Eremeev, A. Voevodsky, Yu. Vladimirov, A. Barabashev, S. Cherepanov; d) **the method of dialectical-ontological construction (universal ontological modeling based on dialectical ontology) of the Primordial (absolute) generating structure - the model of the Universe as an eternal holistic generating process.** The basic gnoseological «beacons» during construction are the philosophical precepts of P. Florensky: «***We repeat: worldunderstanding is spaceunderstanding.***»[20] and A. Zenkin: «***The truth should be drawn...***»[17] The need to construct a new ***expanded Ideality*** in the foundations of knowledge is clearly outlined by E. Husserl in «***The Origin of Geometry***».[21]

The basic «hint» for constructing the «***physical (metaphysical) first-beginning***» is found in G. Galileo: «*Philosophy is written in a majestic book (I mean the Universe), which is constantly open to our gaze, but only those who first learn to comprehend can understand it its language and interpret the signs with which it is written. It is written in the language of mathematics, and its signs are triangles, circles and other geometric figures, without which a person would not be able to understand a single word in it; without them he would have been doomed to wander in the dark through the labyrinth.*»[22]

Why is the «***triangle***» in first place? «Hint» from Plato → ontological equilateral «***celestial triangle***».

It is also necessary to note other «anchor» epistemological supports that clarify the direction and methodology of the dialectical-ontological construction of the «*first-beginning*».

G. Leibniz: «*Drawing is a very useful remedy against the vagueness of words.*»

G. Hegel: «*The truth of space and time is matter.*»

V.V. Nalimov: «*The super task is to build a super-unified field theory that describes both physical and semantic manifestations of the World.*»

A.N. Whitehead: «*Mathematical physics translates Heraclitus's saying «Everything flows» into its own language. Everything becomes, all things are vectors.*»

And the word «*vector*» from Latin means «*carrying*». A mathematical symbol that carries meaning. Meaning is the unconditional basis of existence. (G. Hegel).

The essence/meaning of the method of dialectical-ontological construction of an expanded metaphysical/ontological basis of knowledge (a new expanded Ideality): ontology goes through physics and its basic, essential problems in the foundations → to mathematics (grasping the absolute forms of the «language of Nature»), and mathematics, taking into account problems of its ontological justification, in the opposite direction → to dialectical ontology with the ultimate ontologization of N. Bourbaki's ideas about «***les structures mère***» / «***mother structures***» /«***generating structure***» and «the double reality of the external world and the world of thought». [23], with the construction of a **basic «generating structure» («La Structure mère»,**

ontological SuperStructure), as well as the ontologization of S. Cherepanov's idea of a way to solve the problem of justification of mathematics, taking into account the «***inadequacy of classical justification programs***» of the 20th century: «***build a model a regular process that cannot go in cycles and always leads to the emergence of something new and new.»***[24]. But we cannot agree with S. Cherepanov's approach to solving the problem of justification. «Number» is no help in this matter. The method of dialectical-ontological construction develops the ideas of Spinoza's «*ordo geometricus*» to «**ordo ontotopological**», when the constructive dialectics of «logos», «eidos», «topos» builds and represents in a single symbol the original (ultimate, absolute) generating structure of the existence of the Universe as eternal holistic process of generating more and more new meanings, forms and structures - an «***ideal procedural structure***» [25] for the entire system of knowledge.

The first-organizing basic elementary mathematical objects (mathematical prototectons) - point, vector, equilateral triangle (ontological «celestial triangle» of Plato) receive the ultimate ontological interpretation, and the ontological triad «being-nothing/otherbeing-becoming» and the methodological triad «thesis-antithesis-synthesis» - the ultimate metaphysical and physical interpretation and mathematical representation. As a result, a basic mathematical symbol is built (constructed), representing the ontological framework (border), carcass, foundation of knowledge and cognition as a continuous generating metaphysical/ontological process.

First-Axiom (MetaAxiom, «Axiom of axioms») and First-Category (MetaCategory) of dialectical-ontological construction, reflecting the eternal procedural generating lawfulness of Nature (Universum), underlying the concentration of the source of the unity of faith and knowledge: «***In the Beginning Was the Logos...» / Ἐν ἀρχῇ ἦν ὁ λόγος...***», where «Logos» is the «Meta-Law» / «Absolute Law» governing the Cosmos (in the spirit of Heraclitus and Taoist philosophy) - for the «sciences of nature», and «The Just Law/Law of Justice» - for the «sciences of spirit». From «Logos», knowledge for centuries went in two directions → to the Absolute/God/Creator and to Nature/Society.

Note: *The term «Logos» in the dictionary of the ancient Greek language by I.H. Dvoretsky has 34 meanings, that is, more than 120 meanings in total. The main one is «logos» is understood as «law». For Heraclitus, «Logos» is the single world law of all things, the Cosmos. Heraclitus' «Logos» is a* ***dialectical Logos****. The universal variability of things was understood by Heraclitus as the result of constant movement and transformation, the formation of one from another.*

The Firstprinciple (generating SuperPrinciple) of dialectical-ontological construction is suggested by Nature and Tradition - this is the ontological Principle of triunity. The principle of triunity underlies all other principles of cognition as a continuous process at all its levels.
Concretizing concepts, concepts-constructs, metaphors, inferences and mathematical objects that clarify the methodology for constructing the symbol of the new basic Ideality:

-metaphysical/ontological/epistemological/gnoseological/semantic/physical/mathematical origin (First-Beginning), matter is that from which all meanings, forms and structures are born («nurse», «all-receiving»-Plato), ontological «celestial triangle» (Plato), «sink ↔ source of matter»«coincidence of ontological opposites», «coincidence of ontological maximum and minimum», «vector/bivector of the absolute state of matter», ontological symmetry/asymmetry«ontological path», «generating/maternal structure/la structure mère», «vector → «carrying being», «thing → vector», «meaning → vector», «meaning → unconditional basis of being», «first entity → form», «absolute (unconditional, limiting) forms of existence of matter (absolute states)», , «point with the germ of the vector», , «increment», «absolute ontological invariant», «understanding = «grasping the structure», «first cycle», «rhythm», «primordial structural tension», «time before the beginning of time», «intention», «absolute attractor of meanings», «limit transition», «fundamental ontological graph», «geometry of absolute states», «horizontal of being«,«proportionality/codimension/justice».

The ontological «celestial triangle» of three vectors/bivectors represents «Logos» - «MetaLaw»/ «FirstLaw»/ «Absolute Law» understood/interpreted in the physical/ontological sense as the **triunity of absolute (ultimate, extreme) forms of existence of matter (absolute states): absolute rest (linear state) + absolute movement (circular, vortex state , absolute vortex) +**

absolute becoming (wave state as a transfer of states, absolute wave). The vertices of an equilateral triangle are the points of coincidence of the maxima and minima of the absolute (ultimate) forms of existence of matter (absolute states).

The symbol of ***the new Expanded Ideality***, built on the basis of dialectical-ontological construction (basic ontological construct) - three centered non-intersecting invariants of the «celestial triangle», representing three absolute states of matter and their non-intersecting ***ontological paths***, is a symbol of the **Primordial (absolute) generating structure** , a synthetic model of the ontological basis of the existence of the Universe («horizontal of being») and knowledge as an eternal holistic process of generating more and more new meanings, forms and structures, a symbol of the «eternally existing» in the form of a «9-top star» (basic «symbol of Justice»).

The triune ontological (absolute, existential) space is the limiting value (existential-extremum) of absolute forms of existence of matter (absolute states = ontological framework, boundary): absolute rest (absolute linear state, absolute Continuum) + absolute movement (absolute vortex, absolute Discretuum) + absolute becoming (absolute wave, absolute DisContinuum) = **triune ontological (absolute, existential) field.** His eidos (ultimate geometric images-ideas): **«cube» + «sphere» + «cylinder»** in dialectical-ontological unity represent the absolute (natural) coordinate system of the existence of the Universe as an eternal holistic process of generating meanings, forms and structures (ontological carcass). **The ontological (absolute, existential) space of the primary generation process has three ontological / nine gnoseoological dimensions: three «linear» + three «vortex» + three «wave».** The constructive dialectical ontology of the absolute forms of existence of matter establishes the status, hierarchy, numerical/rhythmic certainty of fundamental constants and the linear-vortex-wave language of the existence of the Universe as an eternal holistic process of generating meanings, forms and structures.

The idea of a Primordial (absolute) generating structure, uniform for the entire system of knowledge, directs thinking towards the need to introduce **MetaNoumenon - Ontological (structural, cosmic) memory,** «soul of matter», a measure of the existence of the Universe as a qualitative quantity of absolute (unconditional, ultimate) forms of existence of matter (absolute states). **Ontological memory (structural, cosmic) is that which generates, preserves, develops, transforms, determines, creates the initial structural tension of the Cosmos**, aspires, i.e. foundations the causal, semantic and eidetic certainty of the existence of the Universe (ancient Greek «entelechy» + nos», «mind-prime mover» of Aristotle, «first-base/primary substance»).

The birth of a new structure, an actual entity, is the birth of «linear time» («*arrow of time*»), representing the «vertical» (hierarchy) of the existence of the Universe (**gnoseological time - past, present, future**). **Ontological time** is a triunity of cyclic (the time of formation of the «horizontal» of being), wave time (the establishment of the «rhythm» of being, the time of formation) and linear (the time of formation of the «vertical» of being, hierarchical, gnoseological time - the «arrow of time»). **Time (ontological)** is a polyvalent phenomenon of ontological (structural, cosmic) memory, which underlies the quantitative/rhythmic certainty of the existence of the Universe as an eternal holistic process of generating meanings, forms and structures.

Information (In-FORMA-tion) is a polyvalent phenomenon of ontological (structural, cosmic) memory, underlying semantic certainty, orderliness, essential/substantive unity of the Universe as an eternal holistic process of generating meanings, forms and structures.

Consciousness is an absolute (unconditional) attractor of meanings. **Meaning is the unconditional basis of the existence of the Universe.** Consciousness is a qualitative vector/bivector value. **Consciousness is a unique phenomenon of ontological (structural, cosmic) memory,** manifesting itself at a certain level of the existence of the Universe as an holistic, directed process of generating structures (material-ideal). One cannot but agree with the conclusions of Pierre Teilhard de Chardin, which he came to back in 1940 in «The Phenomenon of Man»: «*The true physics is that which will, one day, achieve the inclusion of man in his wholeness in a coherent picture of the world.*» And the second, relating to both the «sciences of Nature» and the «sciences of the Spirit»: «*Evolution is an increase in consciousness. Increasing consciousness is an action towards unity.*» [26]

Primordial (absolute) generating structure - the universal ontological basis of

knowledge (ontological framework/border, carcass, foundation), «***universal world origin***», [27] funds the ontological certainty of knowledge and cognition, represents it in a simple mathematical symbol, systematizes accumulated knowledge, deepens and expands the methodology scientific search, forms the philosophical foundations of a «***super-unified field theory that describes both physical and semantic manifestations of the World***» - the model of the «***Self-Aware Universe***»,[28] provides the sought-after ways to solve essential problems in the foundations of fundamental sciences, forms a holistic scientific picture of the world of the New Information era. The result of dialectical-ontological construction is **the basic ontological concept-construct of knowledge, which gives new heuristics and understanding: «Space-Matter/Memory-Time» [S-M/M-T]**, extremely concisely representing the existence of the Universe as an eternal holistic process of generating meanings, forms and structures (ontological process with memory).

I completely agree with the conclusion of V.V. Nalimov: «*The rigid Cartesian distinction between mind and matter still looms over us. The basis for this was the assertion that matter is spatially extended, but mind is not. We can now ignore this argument. We know that the spatial perception of physical reality is determined not so much by the World around us, but by the ability initially given to our consciousness to see the World as spatially ordered. We can also learn to spatially perceive the World of meanings if we are able to define the image of the semantic field in some sufficiently visual way. This way we can geometricize our ideas about consciousness and create a language close to the language of modern physics. In order to set the image of the semantic field, we must recognize that meanings are primary in nature. In other words, it is necessary to agree that elementary meanings (which are not yet texts) are given initially. Here we come very close to Plato's position, which, by the way, was not formulated clearly enough by him. This approach can no longer be considered unscientific - we recognize the initial predetermination of fundamental physical constants, the nature of which is more mental than physical.*»[28]

But I cannot agree with V.V. Nalimov's further approach to creating the "Self-Aware Universe" model. The metaphysical maxim of Plato's Academy should clearly work here: «*Let no one ignorant of geometry enter».*

The methodology for overcoming the conceptual-paradigmatic crisis in the metaphysical / ontological basis of knowledge leads to the need for a **Big Ontological Revolution** in the foundations of fundamental science - mathematics («language of Nature»), physics, cosmology. The paradigm of the Universe as an eternal holistic generating process (**existential paradigm, «paradigm of understanding»**) should come to the aid of the «paradigm of the part» that dominates science. The modern Information Revolution is also pushing for this. Both paradigms must work together in the search for new knowledge and sustainable certainty in science and society..

What issue will be the «*very serious fight*» (V. Voevodsky, 17) during this revolution?

Undoubtedly, on the problem of the «*physical/metaphysical first-beginning/origin*» of the Universe and the unity of knowledge, namely here: ***Meta-Axiom «In the Beginning was the Logos.../ Ἐν ἀρχῇ ἦν ὁ λόγος...» VS. The hypothesis «In the Beginning was a «Big Bang»*** ...», where «Logos» is the «Meta-Law»/«Absolute Law» that governs the Universe (in the spirit of Heraclitus) - for the «sciences of Nature» and the «Law of Justice» - for the «sciences of the Spirit» and religion.

Here it is necessary to quote the important thoughts of the Nobel Prize winner in physics Hannes Alfven (1908-1995), the father of magnetic hydrodynamics and a pioneer of plasma physics, who proposed a cosmological theory that is alternative to both the cosmology of the stationary Universe theory and the «Big Bang theory»:

«Big Bang cosmologists tell us that once upon a time, the entire Earth, the Sun and the planets, and the hundred billion stars in our galaxy, and, moreover, all those hundred billion galaxies that can be observed - this whole huge universe was compressed into one small ball. There are different opinions about the size of this ball, but some even claim that it was smaller than the head of a pin! Few people directly state that this super-atomic bomb that exploded was created by God; most still avoid making such an explicit statement. But everyone pretends to know what happened there during the first few seconds - or even microseconds - after such a creation. While this Big Bang cosmology is wonderful for mathematicians, for most people it is simply incomprehensible. If you

don't disguise it in a more presentable form. No science fiction author would dare to force his readers to believe in a story so radically contrary to common sense.But when hundreds or even thousands of cosmologists put this story into complex equations, and, contrary to the truth, declare that this nonsense is confirmed by everything that is observed in giant telescopes, who dares to doubt? If we consider this as science, then a conflict arises between science and common sense. The cosmological doctrine of today is such an anti-intellectual factor that it seems to have become a very important indicator of the state of affairs in science.»[29, 30]
H. Alfven believed that the problem with the «Big Bang» was that astrophysicists extrapolated the origin of the Universe according to the mathematical theory obtained on paper. But the problem of the ontological substantiation of mathematics, and therefore knowledge in general, still remains «problem of the millennium № 1»(!!!).

Many scientists two decades ago wrote an «***Open Letter to the Scientific Community***», in which they noted: «*The big bang today relies on a growing number of hypothetical entities, things that we have never observed — inflation, dark matter and dark energy are the most prominent examples. Without them, there would be a fatal contradiction between the observations made by astronomers and the predictions of the big bang theory. In no other field of physics would this continual recourse to new hypothetical objects be accepted as a way of bridging the gap between theory and observation. It would, at the least, raise serious questions about the validity of the underlying theory.*» [31]

The positive fact is that today there is an increasingly active debate in the scientific community about the «Big Bang Theory».[32]

A. Einstein is right: «***God does not play dice with the Universe.***»

But there is another metaphysical maxim:
God created the Universe/Eternity/Infinity according to the Logos («MetaLaw», «Absolute Law» = Law of absolute forms of existence of matter). Numbers are the work of man. And God did not need to «curve» Absolute space. The Absolute space of the Cosmos (existential, ontological) is an ideal entity.
P. Florensky is even more right: «***We repeat: worldunderstanding is spaceunderstanding / Повторяем: миропонимание- пространствопонимание.***»[20]

In conclusion, we should recall another important philosophical testament of J.A. Wheeler: *«To my mind there must be, at the bottom of it all, not an equation, but an utterly simple idea. And to me that idea, when we discover it, will be so compelling, so inevitable, that we will say to one another, 'Oh, how beautiful. How could it have been otherwise?»[33]*
It is only obvious that this should not be one idea, but a sum of interconnected constructive dialectical and metaphysical/ontological ideas that Tradition, world philosophy, and the winding path of development of science and knowledge give us.

I remember our student song of the 60s by the bard A. Genkin «I know that dialectics will develop everything.»[34] But dialectics must also develop. Only in this way will we be able to overcome the crisis of understanding and mutual understanding both in the foundations of knowledge, in life, and in international relations.

And in connection with the extremely dangerous total “crisis of mutual understanding” in international relations in the modern nuclear-ecological-information era of increasing existential threats and one more risky memory - about the unusual 2014 competition of the “Foundational Questions Institute” (FQXi. USA) on the topic «***How Should Humanity Steer the Future?***». In my essay «**Protogeometer: Falling into the Future**» [35] I clarify the Cartesian metaphysical maxism, namely:

Nous pensons, donc Nous existons.

The final conclusion from the adventures of metaphysical/ontological ideas:
Philosophy is the most rigorous and joyful Science, the mother of all sciences.
Who's against it?

Some important sources for understanding and mutual understanding

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https://independent.academia.edu/VladimirRogozhin